

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2278.—Vol. XLIX.

LONDON, SATURDAY, APRIL 19, 1879.

[WITH SUPPLEMENT.] {PRICE SIXPENCE PER ANNUM, BY POST, 21 6s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.
BUSINESS negotiated in Stocks and Shares not having a general market value.
A Daily Price List, issued at 5 P.M., giving latest Quotations up to close of Market, and every Friday a general List containing closing prices of the week. MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or parts:—

20 Chapel House, £1 6s 3	20 Herodfoot.	25 Richmond, £9
70 Chontales, 9s.	25 Hultafall, £1 13s. 9d.	50 Rookhope, 4s.
Colorado, 39s.	160 Javali, 6s.	20 Santa Barbara, £2 6s 3
20 East Van, £1 17s.	20 Leadhills, £2 1/2.	20 St. Harmon.
15 Eberhardt, £4 7s. 6d.	20 Morfa Du, 16s.	10 Tankerville, £3 10s.
10 Frontino, £2 6s. 3d.	25 N. Zeal Kap., 10s. 6d.	50 Van Consoles and Glyn
25 Glenroy, 10s.	50 Penstruthal, 2s. 3d.	Amalgamated, 7s. 6d.
50 Glyn.	100 Pestarena, 3s.	25 W. Assheton, £1 3s 9d
	50 Parys Moun., 10s.	

WANTED—50 Newport Abernethy Collieries, at £4 5s.
20 Cardiff and Swansea ditto (£9 paid), 18s.

* SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.
BUSINESS on hand in all the leading Tin Shares.

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—
50 Almada, £s. 9d.
25 Blue Tent, £2 1/2.
40 Birdseye, 11s. 6d.
20 Bettwy-y-Coed.
70 Bodidris.
50 Canada Gold, 25s.
30 Colorado, 41s. 6d.
20 Carn Brea, £3 1/2.
100 Chontales, 9s. 6d.
5 Cape Copper, £2 1/2.
10 Devon Consols.
60 Don Pedro, 16s. 6d.
3 Dolcoath, £2 1/2.
15 Eberhardt, £4 7s. 9d.
20 East Van, 39s. 6d.
10 East Pool.
50 Frontino.
25 Frontino, 46s. 6d.
75 Glenroy.
10 Great Laxey, £16 1/2.
15 Herodfoot.
30 Hultafall.
60 Javali.
50 Kapanga, 11s.
25 Lead Era.
30 Leadhills, £2.
25 Mellanear.
20 Morfa Valley, 16s.
15 New Quebrada, 41s.
150 Penstruthal, 2s. 3d.
25 Port Phillip, 10s. 6d.
100 Pestarena, 3s. 3d.
40 Pandora.
60 Parys Moun., 10s. 6d.
5 Roman Grav., £9 1/2.
15 Richmond, £2 1s. 3d.
10 So. Frances, £10 1/2.
10 So. Condurow.
15 Tankerville, £3 8s. 9d.
5 Van, £20 1/2.
20 Wheel Gravel, £2 1/2.
10 Wheel Peavor, £9 1/2.
40 West Assheton, 28s 6d

MINES.—Many good purchases may now be made, especially in Tin and Lead Shares, some of which (now returning good dividends) are likely to have a considerable rise, besides paying exceedingly well as an investment. Shares in several SOUND PROGRESSIVE MINES may also be secured now on favourable terms, and will probably double their present value within the next few months.
A carefully selected List on application.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to

WILLIAM HENRY BUMPUS, SWORN BROKER.

Offices: 44, Threadneedle Street, London, E.C.

BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C. STOCK AND SHARE DEALERS.

Can do BUSINESS in the following SHARES:—
50 Assheton, £1.
50 Alamillos, £1 2s. 6d.
5 Australian, £1 7s. 6d.
10 Bilson & Crump Meadow Colliery, offer wanted.
20 Bodidris, £1 1/2.
5 Cape Copper, £2 1/2.
5 Carn Brea, £3 1/2.
30 Colorado, £2.
10 Cook's Kitchen, £2 1/2.
100 Cwm Brynno.
100 Don Pedro, 16s.
20 East Pool, £11.
25 East Van, £1 17s. 6d.
20 Eberhardt, £4 7s. 6d.
50 Flagstaff, 5s. 6d.
12 Frontino.
30 Frontino, £2 7s. 6d.
5 Great Laxey, £16.
40 Glenroy, 7s. 6d.
15 Grogwinion, £2 1/2.
Halkyn District.
20 Hultafall.
20 Lead Era, £2.
20 Leadhills, £2.
25 Morfa Du, 20s.
60 Pant-y-Mwyn, £2 1/2.
100 Parys Mountain, 11s.
100 Penstruthal, 2s.
45 Port Phillip, 11s. 3d.
15 Richmond, £2.
20 Roman Gravels, £8 1/2.
15 Tankerville, £4.
5 Van, £21.
12 West Chiverton, £2 1/2.
15 West Wye Valley, 28s.
30 Wye Valley.
25 Morfa Du, 20s.
60 Pant-y-Mwyn, £2 1/2.
100 Parys Mountain, 11s.
100 Penstruthal, 2s.
45 Port Phillip, 11s. 3d.
15 Richmond, £2.
20 Roman Gravels, £8 1/2.
15 Tankerville, £4.
5 Van, £21.
12 West Chiverton, £2 1/2.
15 West Wye Valley, 28s.
30 Wye Valley.

BANKERS: London and Provincial.

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

"HOW TO INVEST," post free, One Shilling, Eleventh Edition.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

MR. THOMPSON transacts business in every species of Stock Exchange and Mining securities.
MR. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividend upon present prices.—MR. THOMPSON'S weekly Circular may be had on application.

MR. R. TREDINNICK, DEALER IN STOCKS AND SHARES, CONSULTING AND ADVISING MINING ENGINEER,
7, UNION COURT, OLD BROAD STREET, E.C.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER
9, GRACECHURCH STREET, LONDON, E.C. (Established 25 years)
ALL BUSINESS TRANSACTIONS FREE OF ANY CHARGE FOR COMMISSION.

Notice to Investors and Speculators.

Mr. BUDGE has SPECIAL BUSINESS in:—
75 Almada and Thirio, 5s.
25 Australian, 29s. 6d.
75 Bodidris.
50 Canon, £2 1/2.
50 Chapel House.
20 Cakemore, £3 1s. 6d.
21 Cook's Kitchen, £2 1/2.
4 Carn Brea, £3 1/2.
150 Cambrian.
60 Devon Cons., £2 3s 9d
5 Dolcoath, £2 1/2.
120 Don Pedro.
10 Davy Brothers.
75 Berwent.
50 Devonport and Tiverton Brewery.
80 East Caradon, 8s. 3d.
100 Exchequer.
7 East Pool, £11 1/2.
50 Frontino, £2 3s 9d.
7 Great Laxey, £16 1/2.
20 Gawton, 7s. 6d.
10 Hornachos, £2 1/2.
100 Herodfoot.
150 Last Chance, 8s. 9d.
30 Linars, £4 1/2.
50 Leadhills.
10 Miners, £9 1/2.
70 Morfa Valley, 19s. 6d.
120 Parys Mountain.
100 Penstruthal.
100 Pitangul.
117 Tamar Silver-lead.
8 Van, £21.
20 West Frances, £2 1/2.
20 Wheel Ury, 10s. 9d.
10 West Seton, £2 1/2.
30 W. Chiverton, £2 1/2.
65 West Wye Valley.

BUYERS or SELLERS of any of the above, or holders of any Stocks or Shares not readily marketable, will do well to apply to Mr. BUDGE.

BRITISH AND FOREIGN MINES.

SHAREHOLDERS and INVESTORS desirous of PURCHASING or SELLING SHARES in COPPER, TIN, LEAD, GOLD, or SILVER MINES can do so at market prices, and obtain information regarding the same on personal application, or by letter, of—

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.

Telegraphic Messages punctually attended to.

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,
16, OLD BROAD STREET, LONDON, E.C.
ESTABLISHED 1853.

MR. JAMES STOCKER, STOCKBROKER,
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Mr. STOCKER transacts Business in all Stock Exchange Securities.

(Established 1848.)

BUSINESS in the following:—

East Van, 37s. 6d.	South Frances, £10 1/2s.	Flagstaff, 4s. 6d.
Grogwinion, £2 1/2.	Tankerville, £3 1/2.	Frontino, 45s.
Glyn, 10s.	Wheel Peavor, £9 1/2.	Hultafall.
Great Laxey, £16 1/2.	West Assheton, 27s. 6d.	Javali, 6s.
Herodfoot, £2 1/2.	Colorado, 38s. 6d.	Last Chance, 10s.
Leadhills, 37s. 6d.	Chontales, 7s. 6d.	Panicleillo.
Parys Mountain, 10s 6d	Don Pedro, 16s. 6d.	Port Phillip, 9s. 6d.
Roman Gravels, £9.	Eberhardt, £4 1/2.	Richmond, £9.

LAST CHANCE PREFERENCE—WANTED TO PURCHASE, at par.

BANKERS: LONDON AND WESTMINSTER.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.

FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK"—A SEPARATE EDITION from that which appears in the Mining Journal is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.
Bankers: London and Westminster, Lothbury.

MESSRS. BEAZLEY AND CO., STOCK AND SHARE DEALERS, FINANCIAL AND INSURANCE AGENTS, AUDITORS, AND ACCOUNTANTS,
9D, NEW BROAD STREET, LONDON, E.C.

The Messrs. BEAZLEY are Prepared to Undertake the Purchase and Sale of Shares in Mines, Gas, Water, Telegraph, Tramway, Bank, and Miscellaneous Companies, Railway, and Foreign Stocks, either for PROMPT CASH SETTLEMENT, usual fortnightly account, or forward delivery in ONE, TWO, or THREE MONTHS on payment of "cover," as may be agreed.

Owing to the REVIVAL in the METAL MARKETS several Mines will soon enter the DIVIDEND LIST. As Messrs. BEAZLEY have had an experience of 22 years in the London and Provincial Markets, they are in an exceptionally favourable position to give RELIABLE and EARLY advice to INVESTORS.

SPECIAL REPORTS on MINES obtained at a small fee. London management of Companies undertaken.

Messrs. BEAZLEY and Co. can deal in the following Shares for prompt cash settlement or the fortnightly account:—

Aberlyn.	Llanrwst.	Roman Grav., £5 1/2.
* Bettwy-y-Coed, 25s.	Lead Era.	* So. Condurow.
* Bluen Caslen, £28 1/2.	Leadhills, £2 1/2.	Tamar, £1.
* Bodidris, £1 1/2.	Last Chance, 8s. 9d.	Tankerville, £3 1/2.
* Cakemore Pref., £23 1/2.	Monydd Gorda, £3.	Tincroft, £10 1/2.
ditto Ord., £23 1/2.	* Morfa Du, 17s. 6d.	Van, £20 1/2.
* Clementina, £1 1/2.	* N. D'Eresby Mount.	West Chiverton, £3 1/2.
* Colorado, £2 1/2.	* Pandora, 9s. 3d.	* West Peavor, £3.
Eberhardt, £4 1/2.	* Parys Mountain.	Wh. Greenville, £3 1/2.
East Van, £1 17s.	Penstruthal, 2s. 3d.	Wheel Peavor.
Great Laxey, £15 1/2.	Pestarena, 4s.	* West Assheton, £1 1/2.
* Herodfoot, £2 1/2.	Richmond, £9.	

* Specially recommended for purchase.

BEAZLEY AND CO.,

9D, NEW BROAD STREET, LONDON, E.C.

MR. T. E. W. THOMAS, STOCK AND SHARE DEALER,
3, GREAT WINCHESTER STREET, E.C.

BUSINESS in the following:—

Chapel House, £1 7s. 6d.	Hultafall, £2 12s. 6d.	Roman Gravels, £5 1/2.
Don Pedro, 16s.	Leadhills, £1 18s.	Santa Barbara, £2 1s 6d
East Van, £1 17s. 6d.	Parys Copper, 11s.	Tankerville, £3 7s. 6d.
Glyn, 10s.	Pateley Bridge, £1 5s.	West Peavor, £2 7s. 6d.
Herodfoot, £2 1s. 6d.	Minera, £10 10s.	Wheel Ury, 12s. 6d.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 23 Years),

can SELL the following SHARES at prices annexed:—

50 Cape Copper, £28 1/2.	40 Great Holway.	100 Penstruthal, 2s.
50 Cambrian, offer wntd.	10 Great Laxey, £16 1/2.	50 Morfa Du, 16s. 6d.
20 Chapel House, £1 10s.	10 Grogwinion, £2 1/2.	5 Rhyddalun, £11 10s.
30 Colorado, £2 1s. 3d.	15 Herodfoot, £2 10s.	10 Richmond, £9 2s. 6d.
50 Chontales, 8s. 9d.	75 Javali, 7s.	10 Roman Grav., £9 2s 6d.
40 Cakemore, £23 1/2.	30 Leadhills, £2 1/2.	100 Rosa Grande, 2s. 6d.
60 Don Pedro, 16s. 6d.	30 Last Chance, 10s.	55 So. Roman Grav., 1s 6d
10 East Van, £2.	20 Lead Era.	40 Tankerville, £3 1/2.
15 Eberhardt, £4 3s. 9d.	5 Minera, £10 10s.	30 Tamar Silver-lead.
50 Flagstaff, 10s. 6d.	30 New Quebrada, £2 1/2.	Flour spar, £1 2s 6d
20 Frontino, £2 6s. 3d.	100 Port Phillip, 9s. 3d.	5 Van.
15 Frontino, £2 1/2.	200 Pestarena, 3s. 6d.	20 York Pen. Pref., 15s.

Shares Bought and Sold at net prices. Telegrams promptly attended to.

MESSRS. E. KINS AND CO., STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, LONDON, E.C.
Bankers: Metropolitan.

MR. F. CUNNINGHAM, STOCK AND SHARE DEALER, THE EXCHANGE, SOUTH WARK, LONDON, S.E.

MR. JOHN L. M. FRASER
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CONSULTING MINING ENGINEER—ROYALTY AND MINERAL ESTATE AGENT—SHARE DEALER.

MINES, MINERALS, AND MACHINERY BROKER.

OFFICE,—59, HOPE STREET, WREXHAM.

IMPORTANT TO INVESTORS IN LEAD MINES.

Having inspected the principal Lead Mines in North Wales, and in possession of the latest and most reliable information, should be consulted before Buying or Selling Shares, which may save thousands of pounds.

N.B.—All Mines personally inspected before being recommended.
ON SALE—A HALF SHARE in a valuable LEAD MINE, with a rich lode of lead ore in sight. Royalty low. Full particulars on application.

MR. DAVID COWAN, CONSULTING MINING AND MECHANICAL ENGINEER, AND LICENSED VALUATOR,
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Investigations, Reports, and Valuations made of Coal, Iron, Slate, Pyrites, and other properties at home and abroad. Enquiries for Road and Railway Materials, Mining Plant, Pipes, Castings, &c. Plans, &c., of the most modern and economical mining appliances, fittings, and arrangements.

I have been long acquainted with the principal Coal and Ironworks in the North, with the Slate Quarries in North Wales, and for many years was Chief Engineer of the Tharvis Mines Works and Railway in Spain.

THE "DIFFERENTIAL" PUMPING ENGINE
(DAVEY'S PATENT),

FOR DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION, SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL PUMPING PURPOSES.

HATHORN, DAVEY, AND CO., LEEDS.

HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500 horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.

MR. CHARLES THOMAS, MINING AGENT, STOCK AND SHARE DEALER,
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MR. ALFRED THOMAS, MINING AGENT, AND STOCK AND SHARE DEALER,
10, COLEMAN STREET, LONDON, E.C.

Just published.

"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES."
By ALFRED THOMAS, 10, Coleman-street, E.C.

Will be forwarded to Investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON, LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

MR. JOHN RISLEY, STOCK AND SHARE BROKER,
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Established 20 Years.

Business transacted for clients on commission (only).
Wheat Peavor, West Peavor, Trelawny, Roman Gravels, Parys Mountain, South Frances, and Lead Era specially recommended for investment.

MESSRS. J. TAYLOR AND CO., MINING ENGINEERS AND INSPECTORS,
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Have Agents in England, Scotland, Wales, and on the Continent.

FOR SALE, VIKNEBERG SHARES, at 30s. per share.

MR. EDWARD BREWIS, STOCK AND SHARE DEALER,
15, GREAT ST. HELEN'S, LONDON, E.C.

Buyers or Sellers of Mine Shares, Railways, Foreign Bonds, and Miscellaneous descriptions of Stock and Shares may send their orders, and have their business promptly attended to for immediate cash, or the fortnightly account current, or for a deferred settlement.

Bankers: National Provincial Bank of England.

MESSRS. ENDEAN AND CO., 85, GRACECHURCH STREET, LONDON, E.C. STOCK AND SHARE DEALERS.

Established in 1861.

Bankers: Barclay, Bevan, and Co.; and London and Westminster Bank Lothbury.

MR. J. ROSEWARNE, 3, COPTHALL BUILDINGS, LONDON, E.C.

Advice given respecting Richmond, Colorado, and Eberhardt.

Money advanced on Mining Shares, or any other good Securities.

MR. JOHN BATTERS, STOCK AND SHARE DEALER,
transacts Business in Stock Exchange and Mining Securities.
Special information to Investors in Lead Mines, also in Swedish, Canadian, and other securities.
4, AUSTINFRIARS, LONDON, E.C.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
8, DRAPER'S GARDENS, LONDON, E.C.

Bankers: The National Provincial Bank of England.

MR. JOHN T. REYNOLDS, STOCK AND SHARE DEALER,
37, WALBROOK, LONDON, E.C.

MR. REYNOLDS recommended Wheat Peavor Shares when they were at £6, £6 1/2, and the present price is £9, £9 1/2.

MR. REYNOLDS directs special attention to West Peavor.

Established Twenty Years.

Bankers: London—City Bank.

Cornwall—Messrs. Tweedy, Williams, and Co., Redruth.

A B B O T T A N D C O., STOCK AND SHARE BROKERS,
9, UNION COURT, OLD BROAD STREET, E.C.

FOR SALE, the WHOLE or PART:—
100 Glyn, carrying 100 Cwm Brynno, £1 5s.
right to preference 40 East Van, £1 17s 6d.
shares, 10s. 20 Herodfoot, £2 1/2.
100 Van Consoles, do, 7s 6 15 Hornachos, offer wtd. 100 Morfa Du, 17s. 6d.
WANTED TO PURCHASE:—
100 Don Pedro, 14s. 6d. 10 to 20 W. Chiverton. 50 Santa Barbara.
Address, H. WILKINS and Co., 3, Heybourne Villas, Tottenham.

FOR SALE,—40 Llanrwst Mining Shares, fully paid at 12s. 6d each.

Address, "Sigma," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

CANADA GOLD COMPANY (LIMITED).—
These SHARES CANNOT FAIL shortly to take a VERY IMPORTANT POSITION, and a GREAT ADVANCE in PRICE.

For full particulars, apply to JOHN BATTERS, 4, Austinfriars, E.C.

GUNPOWDER AGENCY.—A Liverpool Gentleman, with convenient office, desire an AGENCY for GUNPOWDER. Extensive shipping connection.
Address, "E 30," care of Henry Greenwood, Advertising Agent, Liverpool.

NATIONAL BANK OF WALES (LIMITED).

CHIEF OFFICES,—3, NORFOLK STREET, MANCHESTER.

The LIST of APPLICATIONS for SHARES will CLOSE on TUESDAY next, April 22nd, for MANCHESTER, and on WEDNESDAY, the 23rd, for THE COUNTRY.

THE MELLANEAR COPPER MINE COMPANY (LIMITED).

Notice is hereby given, that the ORDINARY GENERAL MEETING of the company will be HELD at this office on FRIDAY, the 25th day of April instant, at Twelve o'clock at noon, to receive the reports and accounts for the half-year ending 31st December last, and for general purposes.

At this meeting two directors, viz.—John Taylor, Esq., and Richard Taylor, Esq., retire, from office, but are eligible, and offer themselves for re-election. The auditor, Charles Hurbutt, Esq., also retires from office, and offers himself for re-election.

By order of the Board,

W. G. WILLIAMS, Secretary.

6, Queen street place, London, E.C., 16th April, 1879.

UNITED MEXICAN MINING COMPANY (LIMITED).

Notice is hereby given, that the ORDINARY HALF-YEARLY GENERAL MEETING of proprietors will be HELD at the office of this company, on WEDNESDAY, the 7th day of May next, at One o'clock precisely.

At this meeting John William Williamson and William Adam, Esquires, retire from office as directors, but, being eligible, offer themselves for re-election. The two auditors, William Turquand and Jeremiah Carter, Esquires, also retire, but offer themselves for re-election.

The Transfer-books will be closed on the afternoon of the 26th instant, and reopened on the day succeeding the meeting.

By order of the Board,

W. M. BROWNE, Secretary.

Office, No. 3, Great Winchester-street Buildings, London, 16th April, 1879.



PARIS EXHIBITION, 1878.

GOLD AND SILVER MEDALS AWARDED for
Steam-Engines & Boilers, also the Special Steam Pump,
with Holman's Condenser & Compound Pumping Engine.



TANGYE BROTHERS AND HOLMAN,

HYDRAULIC AND GENERAL ENGINEERS

CORNWALL HOUSE, 35, QUEEN VICTORIA STREET, LONDON, E.C.,

AND BIRMINGHAM, (TANGYE BROTHERS), CORNWALL WORKS SOHO.

The "SPECIAL" DIRECT-ACTING STEAM PUMP,

Holman's Patent Self-acting Exhaust Steam Condensers.

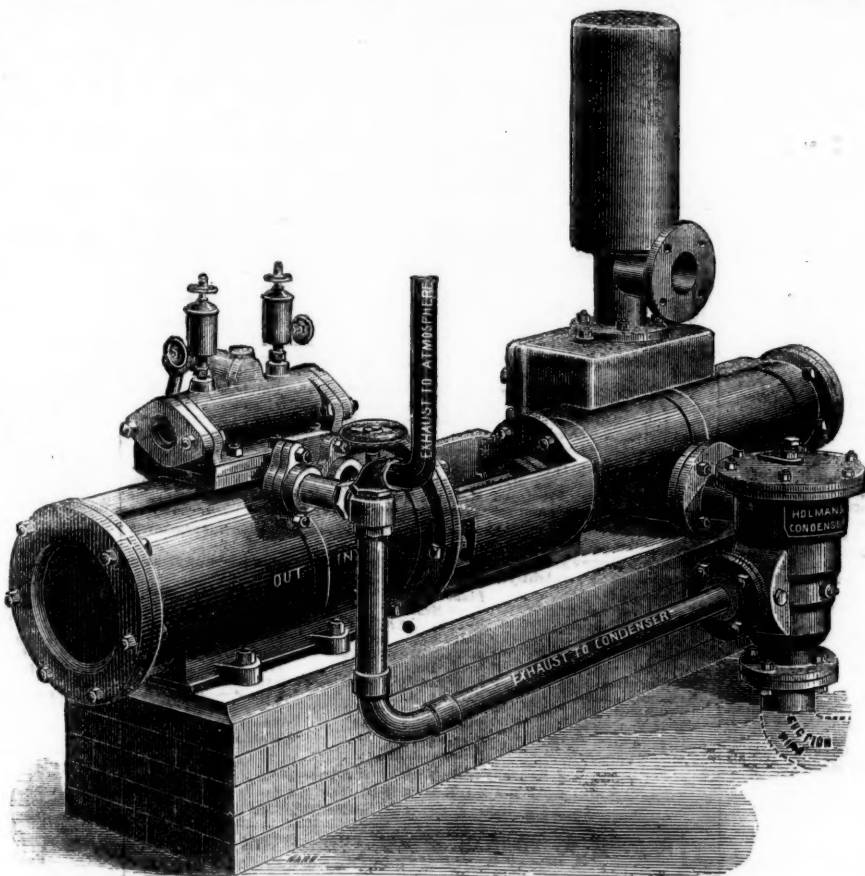
UPWARDS OF 12,000 "SPECIAL" STEAM PUMPS ARE IN USE.

After eight years of successful application for all purposes to which steam-driven pumps can be applied, THE "SPECIAL" STEAM PUMP STILL MAINTAINS THE FIRST POSITION IN THE MARKET, notwithstanding that it alone—of all direct-acting pumps—has been subjected to the great variety of severe tests that must be encountered in such a period of time. Some valuable improvements have been suggested in the course of a long experience, and their adoption has rendered the apparatus at once the simplest and most certain in action. There is absolutely no extraneous gear, and the steam cylinder is no longer than the pump. The valves are of easy access, and are suited for pumping fluids and semi-fluids of almost any consistency.

Holman's Condenser

TURNS WASTE STEAM INTO
GREAT POWER.SAVES HALF ITS COST IN PIPES AND
CONNECTIONS.PREVENTS ALL ESCAPE OF STEAM IN
MINES OR ELSEWHERE.

REQUIRES NO EXTRA SPACE.

SAVES TWENTY TO FIFTY PER CENT.
OF FUEL.

WILLIAM ELLIOT, Esq., of the *Weardale Iron and Coal Company*, writes under date Sept. 17th, 1875, as follows:—"We have now THIRTY-FIVE of your SPECIAL STEAM PUMPS in operation at the various collieries under my charge—some of them employed pumping water out of our pits to the depth of 50 fms.—others employed in the pits, and a good many feeding Boilers. I have no hesitation in saying that we have found them the Cheapest and Best Pumps of the kind we have tried. I can with confidence recommend them to intending purchasers."

Messrs. BURT, BOULTON, and HAYWOOD, *Chemical Manufacturers*, of London, have FORTY of the "SPECIAL" STEAM PUMPS in use at their works.

HOLMAN'S CONDENSERS

Are made to suit any size and kind of Steam Pump. They form a part of the suction pipe of the Pump, and while they effectually condense the exhaust steam they produce an average vacuum of 10 lbs. per square inch on the steam piston, increasing the duty of the Engine and effecting a saving in fuel of from 20 to per cent.

In Mining operations these Condensers will be of great value.

All Boiler Feeders are recommended to be fitted with these Condensers, as not only is the exhaust steam utilised in heating the feed water, but is returned with it into the boiler.

GREAT REDUCTION IN PRICES.

The following sizes are suitable for low and medium lifts:—

Diameter of Steam Cylinder ...In.	3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	10	10
Diameter of Water Cylinder ...In.	1½	2	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4	5	6	7	8	5	6	7	8	9	5	6
Length of Stroke ...In.	9	9	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,500	5070	7330
Price of Special Pump ...£	16	18	20	25	22	10	27	10	32	10	25	30	35	40	30	35	40	45	50	40	45	50	55	65	50	55	60	70
Extra, if fitted with Holman's Condenser and Blow-through Valve	£7	£7	£9	£11	£8	10	£11	10s	£12	10s	£9	£12	£15	£15	£10	£13	£15	£16	£22	£13	£16	£16	£22	£22	£16	£16	£23	£24

CONTINUED.

Diameter of Steam Cylinder..In.	10	10	10	10	12	12	12	12	12	12	14	14	14	14	14	14	16	16	16	16	16	18	18	18	18	
Diameter of Water Cylinder..In.	7	8	9	10	6	7	8	9	10	12	7	8	9	10	12	14	8	9	10	12	14	9	10	12	14	
Length of StrokeIn.	12	18	24	24	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000	40,000	
Price of Special Pump..£	65	75	90	100	75	80	85	110	120	140	110	120	130	140	160	180	140	160	180	200	180	200	180	190	210	230
Extra, if fitted with Holman's Condenser and Blow-through Valve	£23	£24	£35	£35	£20	£27	£27	£38	£38	£50	£28	£28	£40	£40	£55	£55	£28	£40	£40	£55	£55	£45	£45	£56	£60	

Intending purchasers of Steam Pumps would do well to observe the great length of stroke, short steam cylinder, and short piston of the "Special" Steam Pump, as compared with the short stroke, long steam cylinder, and long piston of the Pumps of other makers, as the efficiency and durability of the machine, and the space occupied by same, greatly depend upon this. The advantage of long strokes will be obvious when purchasers are reminded that each set of suction and delivery valves of a "Special" Steam Pump with 24 in. stroke, running at 120 ft. per minute, would open and close only 30 times per minute, as against 120 times per minute in a Pump with only 6 in. stroke performing same duty.

The "Special" Steam Pump can be worked by Compressed Air as well as by Steam.

HUNDREDS of these PUMPS are USED for HIGH LIFTS IN MINES, for which purpose they are made with 21, 24, 26, 28, 30, and 32-inch Steam Cylinders, and 36 48 and 72-inch Strokes.

The following Testimonial gives one Example of the Power Gained by the action of Holman's Patent Condensers:—

NORLEY COLLIERY, WIGAN.

MRS. TANGYE BROTHERS AND HOLMAN.

GENTLEMEN,—I have great pleasure in recording my entire satisfaction with the working of the Holman's Patent Steam Pump Condenser which you have supplied to us. The complete condensation of the steam is, apart from its value in the brief economic sense, a most valuable feature in the drainage of underground work.

ings. The perfect manner in which this important result is accomplished by your Condenser is extremely creditable to you, and merits the thanks and commendation of the Mining Engineer. When we start the "Special" Steam Pump the Condenser commences working automatically, and maintains a constant vacuum of 10½ lbs. per square inch, even when we run the Pump upwards of 80 strokes (106 feet) per minute. It may perhaps be interesting to you to know that when we were running the Pump at 84 strokes (168 feet) per minute, the steam gauge

indicating a steam pressure of 36 lbs. per square inch, 80 yards from the Pump and the Condenser vacuum gauge on the exhaust pipe indicating a steady vacuum of 21½ inches, I turned the exhaust steam from the Condenser into the atmosphere, when the speed at once fell to 44 strokes per minute. The working economy thus shown is really so great that the cost of the Condenser must be saved in a very short time. (Signed) J. THOMPSON.

NORTH OF ENGLAND HOUSE

SOUTH WALES HOUSE

TANGYE BROTHERS, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.

TANGYE BROTHERS AND STEEL, Tradeagar Place, NEWPORT, Mon.; and Exchange Buildings, SWANSEA

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. CXIII.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. 5C.,

Mining Engineer, Wakefield.

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SECTION V.

SINKING SHAFTS OF IRON.—The most suitable mode of forming sinking shafts is to make them of cast-iron. This method was probably first practised in England, where the iron tubings were then cast in one piece, with inside flanges at the top and bottom. The rings are connected together by bolts passing through the flanges, between which thin pieces of lead, or tarred hemp, &c., are inserted, to ensure their being water-tight.

At present sinking linings of cast-iron are made in segments, as in the previously mentioned method of cast-iron tubing, with this difference, that since it is necessary that the outside of the lining should be as smooth as possible, the flanges and strengthening ribs must be cast on the inside. The first part of the shaft is usually built and timbered as far as the water level or quick ground in ordinary prop crib timbering, to which are attached several lengths of vertical timbers, to serve as guides to keep the sinking lining vertical during its descent. The lowest of the rings forms the so-called shoe, which consists of segments, with the vertical portion bent slightly outwards; the segments are connected together by means of bolts passing through the flanges, and the shoe is similarly connected to the last of the tubing rings. The joints are made tight by inserting tarred hemp, or thin pieces of wood, or even lead. The excavation of the ground is effected, as previously described, by sack bursers. As a cast iron lining is much lighter than a corresponding one of brick the former will often necessitate the use of screw jacks, hydraulic jacks, &c., for forcing down the lining where its own weight is insufficient. Although owing to this the length of a single division of a cast-iron lining cannot be made to reach so far as a brick lining, still when it is necessary to insert a second lining of narrower dimensions, the diminution of sectional area of the shaft is not so great as in the case of a cast-iron lining as in one of brick, owing to the difference in the thickness of the respective linings. When the insertion of a second lining is resorted to the annular space between the two linings must be made water-tight. At the Anna Colliery, near Aix-la-Chapelle, the annular space was made tight by means of wooden wedges; the inner lining was then prolonged upwards by adding three rings, the space between these and the cast-iron lining being filled with trass-mortar.

When a sinking shaft has thus been successfully lowered through quick ground a difficult and important work remains to be accomplished—to close the foot of the lining water tight on a suitable foundation. When the strata into which the shoe of the lining has forced itself are sufficiently firm for the purpose, and there is no liability of the quick ground bursting through, the bottom of the shaft is pumped dry, a footing is cut out in the rock, wedging cribs are laid, and by means of two or three rings of cast-iron a water-tight metal tubing is carried up to the under side of the lining, and where it is possible with the removal of the shoe of the lining. It is on this account the shoe is usually cast in segments, and also that the closing tubing has the rings composed of several segments. By means of this arrangement it is easy to remove one segment of the shoe at a time, and to replace it by one of the segments of the closing tubing before next removing the diametrically opposite segment of the shoe. When it is difficult or dangerous to remove the shoe, the closing tubings are of a slightly less diameter, so that they can be carried 5 ft. or 6 ft. up inside the lining above the shoe, the annular space between the closing rings and the lining being made tight, either by wedging or filling with mortar or with cement.

When the pumping of the water from the bottom of the shaft (for the purpose of closing the foot) is attended with any risk of the water bringing the quick ground into motion, and so occasion a breaking through of the ground, compressed air has been employed for forcing back the water. This method appears to have been first practised by M. Triger.

The use of compressed air for sinking shafts was first employed in 1839, by M. Triger, at Chalons, department Marne-et-Loire, since which it has been several times employed in various places in Belgium and Germany, especially Silesia. The coal basin of the above department is covered in some districts by an alluvium composed chiefly of quicksand, and through which the bed of the Loire passes for some distance. The thickness of this bed at Chalons amounts to between 18 and 20 yards, which must be passed before the uppermost water-tight strata of the coal measures are reached. This distance is sunk through by means of sheet-iron cylinders, the diameter of the shaft being 1.33 metres, 1.7 metres, and the other two 2 metres, the thickness of the plating of which the lining is made being 13 and 15 millimetres respectively. The lining is forced down by means of ramming or pile driving. After the lining has been sunk down through the quicksand, and as far as possible into the more solid ground, the sand enclosed in the lining is raised by means of a sledge, or pump, with a ball valve. Although the sand is thus removed it is impossible to lower the level of the water by pumping, since the bottom of the shaft is practically in communication with the bed of the Loire through the rents in the more solid ground and the quicksand. In order, therefore, to clear the bottom of the shaft of water, so that the workmen could descend, and make a proper water tight footing for the lining, M. Triger used the following arrangement for forcing back the water by means of a column of compressed air.

The essential part of these arrangements is that to which M. Triger has given the name air sack. This consists of a cylinder of sheet-iron, slightly smaller in diameter than the inside of the shaft lining, and which is closed at the top and bottom. The annular space between the air sack and the shaft lining is closed air-tight at the upper and lower ends by means of wooden cribs. The object of this is to prevent the compressed air escaping from the part of the shaft beneath the bottom of the air sack. The air sack is suspended by a rope from the surface. A length of piping passes from the air compressor at the surface through the top and bottom covers of the air sack into the lower part of the shaft. A stop-cock is placed in this air piping where it passes through the air sack, so that the compressed air can be shut off from the air compressor when the latter is standing. A similar water pipe passes through the air sack at the opposite side, the bottom of the water pipe, fitted with an ordinary snore piece, being plunged into the sump at the bottom of the shaft, the upper end discharging the water which cannot escape behind the lining at the surface. By means of an ordinary stop-cock, placed some distance above the snore-piece, the water pipe can be opened or shut. A man-hole, with doors closing air-tight, is provided in the top and bottom of the air sack, and likewise stop-cocks for placing the bottom part of the shaft and the interior of the air sack in communication, and likewise the interior of the air sack and the free atmosphere at the surface. A safety valve in the top of the air sack prevents the pressure of the air inside the air sack, and consequently that in the lower part of the shaft when in communication with the air sack from becoming too great. A manometer is likewise placed in the top of the air sack to indicate the pressure.

The stop-cock and man-hole in the bottom of the air sack being closed, and those in the top being open, compressed air is admitted through the air pipes to the lower part of the shaft; when the pressure of the air becomes sufficient the water is forced partly back into the ground, and partly through the water pipe to the surface, until the bottom of the shaft becomes cleared of water. Everything being now ready for proceeding with the work, the workmen

enter the air sack through the man-hole in the top, which is closed after them, as well as the stop-cock, which shuts off communication between the interior of the air sack and the free atmosphere. The stop-cock in the bottom of the air sack is then slightly opened, placing the air sack in communication with the bottom of the shaft in which the air is compressed. The compressed air enters slowly into the air sack, so that in from 15 to 20 minutes the air in the air sack and that in the lower part of the shaft are in equilibrium. The man-hole in the bottom of the air sack is then opened, and the workmen descend to the bottom of the shaft, and proceed with the excavation of the ground in the usual manner; the compressed air keeping back the water from the bottom of the shaft, all cracks in the rocks are carefully stopped with clay and the like. In this manner the shaft is sunk through the water bearing ground, till a water-tight compact rock is met with, in which a water-tight coating, generally composed of wooden cribs, is inserted, and the lining carried up and made water-tight against the previous shaft lining. Sometimes the bottom of the shaft will be obstructed by the running in of the dry quicksand. To overcome this difficulty a sheet-iron cylinder or lining is forced down in a telescopic manner within the previous one.

The greatest degree of compression of the air appears to be about $\frac{1}{2}$ atmospheres, or $\frac{3}{4}$ atmospheres above the atmospheric pressure. As a pressure of one atmosphere will support a column of water 32 ft. in height, the above corresponds to a total height of $3\frac{1}{2} \times 32$ ft. = 112 ft.; in other words, with a pressure of $\frac{3}{4}$ atmospheres the bottom of the shaft can be kept dry to a depth of 112 ft. below the level at which the water would stand in the shaft.

When the workmen leave the shaft the reverse mode of proceeding is followed. The air sack having been in communication with the lower part of the shaft, the dirt is drawn up and emptied on to the bottom of the air sack during the working. The workmen leave the bottom of the shaft and come into the air sack, closing the man-hole in the bottom of the shaft as well as the stop-cock, which closes the communication between the air sack and the bottom of the shaft. The stop-cock which places the air sack in communication with the free atmosphere is then gradually opened, so that in about 15 minutes the air in the sack is at the ordinary atmospheric pressure, and the man-hole in the top of the air sack can now be opened for the exit of the workmen.

The physiological and physical phenomena attendant on this mode of M. Triger's should be well understood by the engineer having charge of such an undertaking. In the majority of cases the compression of the air causes a more or less acute pain in the ear, which continues until the air enclosed in the drum of the ear is in equilibrium with that surrounding the person. The best way of hastening this equilibrium is to make rapid and powerful efforts as if in the act of swallowing. The severity and duration of the pain is different with different persons; deaf persons are said to hear better, and the climbing of the ladders is effected with greater ease. The action of the lungs is increased, and the beats of the pulse after 1 to 1½ hour in the compressed air increases from 82 to about 120 per minute. The rarefaction of the air previous to the exit of the workmen causes a considerable absorption of sensible heat, so that on coming out the workmen should be warmly clad, and fed with warm, nourishing food. One peculiarity is of some importance when sinking shafts by this method. It is found that the height of the column of water in the water pipe is generally much greater than that which corresponds to the pressure of the compressed air. This is due to the fact that the column in the water pipe is really a column of air and water, the former entering through the snore piece, so that the specific gravity of the column is much less than if it were composed of water alone.

THE WAGES QUESTION AT DEVON GREAT CONSOLS.

It is much to be regretted that the question of the settlement of the rate of wages to be paid at Devon Great Consols is in some quarters being discussed in a manner calculated to create false impressions upon the minds of both shareholders and working miners; the cause of this unsatisfactory state of things being that the matter has been almost exclusively regarded as a contest between individuals, instead of a mere business question to be settled in a purely business way. The preaching of any sentimental nonsense about the social and material comforts which working men and their families are entitled to is altogether beside the question; indeed, the points to be considered with regard to it are very few. In the first place—Are the wages paid or proposed to be paid at Devon Great Consols such as will prevent the men from earning as high wages as are paid at other mines in the district? If the wages at the other mines vary the average must be taken as the standard. Secondly—Are the prospects of the Devon Great Consols Mines such as to induce the shareholders to carry on the mines at a loss, or is there such danger of there being a scarcity of labour in the event of the prices of copper improving that the shareholders ought to submit to loss in the meantime, in order to keep the men together? And, thirdly (and this is a question entirely for the miners themselves)—Is there such a demand for miners' labour either in the Tavistock district or in any other district which the miners have the means of reaching that the stoppage of Devon Great Consols would be immaterial to them, in which case they would be justified in refusing the low wages offered?

These are questions which can be most satisfactorily answered by the Devon Great Consols shareholders and the Devon Great Consols miners, but there are certain ascertained and published facts which are worthy of consideration in connection with them. Taking the original capital subscribed for opening the mine—1024l.—and the amount returned in dividends—about 1,200,000l.—the profits have been enormous; but, as a matter of fact, comparatively few of those who have invested in Devon Great Consols received more than 10 per cent. per annum upon their investment, for when the dividends paid were 47l. per share per year the shares were not purchasable under 600l., and the relation of price of share to the dividend was always during the mines' prosperity about the same. Now, from the high price of the shares in prosperous times, there were very few persons who held more than one or five shares, the natural consequence being that united action on the part of the shareholders was out of the question, and all matters of management and control were entirely in the hands of the executive. No one shareholder nor any dozen shareholders could hope to secure the prevention of nepotism and introduction of reforms however much they individually might deem action necessary, because it was through the executive alone that the general body of shareholders could be communicated with. The result was that an extravagant system of management was adopted, such extravagance constantly increasing, at Devon Great Consols, which but for the extraordinary richness of the mines would have inevitably led to ruin and liquidation. It is this system which has now to be eradicated; and, although something has already been done, it may fairly be questioned whether it does not resemble breaking off the top of the teeth and leaving the painful and useless stumps—the too numerous agents and other officers—remaining.

But there is one point connected with the Devon Great Consols Mines which officers and miners alike appear to have lost sight of, and which goes to show that even with copper ore at twice its present price the remedying of the nepotism and extravagance of former years would be none the less necessary. Not only are the reserves of ore in the mines enormously reduced, but the ore that is obtained is of a much poorer quality. The statement made at a recent meeting that during the half-year ending October, 1877, the ore sold averaged 34.6s. per ton, whilst during the corresponding period of 1878 the price averaged but 17.18s. 6d. is true no doubt, but does not contain the whole truth. The decline here shown is equal about 42 per cent., but the price per unit at the Cornish Ticketing on Oct. 31, 1877, was 9s. 11d. for $\frac{7}{8}$ produce, and on Nov. 1, 1878, it was 9s. 6d. for $\frac{7}{8}$ produce—so that the difference which the smelters were paying for a 5 per cent. ore at the two dates mentioned was less than 3s. per ton, or (say) $\frac{1}{2}$ per cent.—so that had the quality of the Devon Great Consols ore been maintained the company would have had to submit to a reduction of only $\frac{1}{2}$ per cent., instead of 42 per cent. The figures speak for themselves, and

afford another proof that the question is as much whether the mine should be stopped or continued as whether the costs should be reduced. Extravagance which was previously supportable is in the present condition of the mines, apart from the question of depression in the price of metals, altogether insupportable.

The fact that the miners at Devon Great Consols can at the present rate of wages—15s. to 16s. per week—earn as much as is paid at other mines in the district has already been stated, and though the *Mining Journal* would always advocate the fair payment of miners it would be absurd to attempt to disguise the fact that at present it is a question of low wages or none at all—for, as a shareholder at the meeting in November remarked, the Devon Great Consols Company is not a philanthropic society, but a commercial undertaking; if it be commercially valueless it must be abandoned. If the shareholders are content to carry on the works in the hope of better times and better mines they surely do their fair share to benefit Tavistock, and the miners will not be doing their fair share unless they willingly accept the wages of the districts. But it is not alone the working miners' wages that should be taken into consideration in connection with the efforts to keep the mines open; the fixed charges that appear to be consuming the vitals of the concern. The executive should lose no time in publishing a complete list, showing the names of all the agents, foremen, &c., employed, and the amounts paid per month to each, and it will then be marvellously surprising if it is not found that the services of two-thirds of these can be dispensed with. Many mines producing quite as much mineral as Devon Great Consols are carried on with one-fourth the staff; and, although it may be unpleasant to offer a bargain to a man who has long enjoyed the ease and emoluments of an officer, the state and prospects of the mines render it essential that this should be done. The resident manager has already been induced to resign, which represents a saving to the shareholders of 600l. per annum, and there are many others who should also be given the choice of resignation or discharge. The reference which has been made to the hardship of a man having to support a wife and nine children on 12s. 6d. per week is fortunately inapplicable at Tavistock, because there could scarcely be found in all Devon and Cornwall a miner with such a family who has less than five or six out of the nine at work, and earning fair wages. That the wages are low in Cornwall is beyond question; but, as necessities are cheap in proportion, the Cornishman is in a much better position than the working men in many other districts. It is sincerely to be wished that there will be a return of prosperity at Devon Great Consols, as well as throughout the mining districts of the country; but, in the meantime, it is well to look at all the circumstances fairly, and not permit the effort to retain abuses which have been suffered to exist and to maintain wages which neither the position nor present prospects of the mines justify to deprive the Tavistock district of its chief means of support by compelling the total suspension of the mines.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been less business done, owing to the Easter holidays and the fortnightly settlement intervening. Particulars of the continuation business done are given below. The new account for settlement April 30 has commenced very quietly, without any decided tendency in prices. The condition of trade is rather unsettled. While the favourable change in the weather and the easy state of the money market raise some hopes of renewed business activity it is possible the unfortunate trade disputes in several parts of the country will hinder any improvement.

In shares of coal and iron companies Boleckow, Vaughan, A. have advanced 1l. per share; while Arncliffe are reduced 15s., Lechore and Capledrae 7s. 6d., and Marbella 5s. Benhar have attracted more attention, and after a few sales at 12s. 3d. they are now in request at 14s. 3d. Cairntrable and Steel Company of Canada shares are offered. In some cases it is evident sales are being attempted to meet calls of the City of Glasgow Bank liquidators, and investors would do well to avail themselves of such exceptional opportunities for purchasing. Ashbury are at 15s. dis. Andrew Knowles and Sons (2½ paid), 11½ dis. Boleckow, Vaughan, A. 6s. 4d.; ditto, B. 37 to 37½; ditto (stock), 11s to 11s; and ditto (debtenture bonds), 100, Cardiff and Swansea, 15s. to 2s. Chapel House, 2s. 6d. Clyde Coal 7 per cent. debentures, 100, Ebbw Vale, 65s. to 70s. Monkland preference, 50s. to 60s. Newport Abercrombie, 95s. Onna and Cleland, 5s. to 7s. Park Gate, 25 dis. Rhymney, 13 Scottish Australian, 35s. to 40s. South Wales, 75s. Thorp's Gawber Hall, 15s. to 35s. Tredegar, A. 14.

In shares of foreign copper companies, Tharsis have improved 5s.; ditto (new), 2s. 6d. also higher. The returns of the Cape Company for February have been 1080 tons, and the last sale realised 11s. 1½d. per unit. It is said that experiments with Holloway's process for utilising sulphides as fuel have resulted very satisfactorily, and it is expected the invention must largely increase the profits of large smelting firms such as the Tharsis. The Tharsis shares, which were at 21½ in the commencement of the week, have, therefore, improved to 21½. Rio Tinto 5 per cent., 63½; New Tharsis, 8½; Yorke Peninsula, 3s. 9d.; ditto (preference), 12s. 6d.

In shares of home mines, tin shares are firmer. The best and safest to buy are South Condour and South Frances. The latter should be secured at once, as the meeting is on April 22, when a profit is expected of 6000l.; the mine is in 4500 shares. Among lead mines West Chiverton shares are the best purchase. This mine will pay costs at the present price of lead, but, as is very probable, lead rises 1l. per ton, and blends 10s. per ton, which would even then be comparatively a very low price for them, the mine would pay a dividend. No call is expected at the next four-monthly meeting, but should there be one it cannot be much. Great Laxey shares at 15s. to 16½ are ex the quarter's dividend of 5s. per share, payable on April 22. Asherton are at 17s. 6d.; Cook's Kitchen, 52s. 6d.; Combarnett, 2s. 6d.; Dolcoath, 28½; East Pool, 11; Herodfoot, 70s.; Killbreth, 2s. 6d.; Marke Valley, 15s.; New Cook's Kitchen, 52s. 6d.; Parys Mountain, 11s. 6d.; Parracombe, 17s. 6d.; Prince Patrick, 17s. 6d. to 22s. 6d.; Korre Gravel, 9; South Molton Consols, 5s.; Tincroft, 10½; Teesdale, 1½; West Wyo Valley, 15s. to 25s.; West Asherton, 25s. to 30s.; West Basset, 5; West Frances, 5½; Wheel Crebor, 6s. 3d.; Wheel Kitty, 3s. 9d.; Wheel Ury, 6s. 3d.; Ceron, 16s. 3d.

In shares of gold and silver mines very little has been done. Richmond have been neglected; this week's run is \$99,000. The satisfactory news has been received from St. John del Rey that payment of the 4 per cent. tax is suspended. Elberhardt are lower, although the reports from the mine show a particular change to cause this. A mada and Tinto have received advices of a remittance valued at \$3900. Javel has a profit of 38½ for February, while Ontonales announces a loss of 195l., owing to the stoppage proving unexpectedly poor. Australasian mines wanted. Colorado are at 40s. Don Pedro, 15s. Emma, 2s. 6d. Eschquer, 3s. 9d. to 5s. Rossa Grande, 1s. 6d. to 2s. 6d. South Aurora, 2s. 6d. to 5s. Teocoma, 2s. to 4s.

In oil companies shares, prices have advanced. Uphalls are 7s. 6d. higher. Dalmeny and Broxbourne each 2s. 6d. Young's Paraffin have been wanted about 14½ all the week.

In shares of miscellaneous companies, a reduction of 10s. has been accepted for Phospho Guano at 5½. Hopkins, Gilkes, and Co. are at 11½ dis. Palmer's Shipbuilding (B) 16 dis. In wagon companies, the new shares of the Scottish Company have been sold 10s. cheaper, at 30s. Prices of others are—Bristol and South Wales, 6½. Gloucester, 6½. In chemical companies a sale of Lawes' was reported by auction at 8½, although the market has not been better than 8 to 8½ all the week. Langdale's are 82s. to 87s. 6d. Newcastle, 20s. to 22s. 6d. Odam's, 16½.

BYRNEDWEN LEAD MINE.—This valuable mining property is situated within six miles of Llanbrynmair Railway Station on the Cambrian line, in the county of Montgomery. It is surrounded by some of the best mines in Wales, and the lode is the same as some of them, and imbedded in the same rock formation. The set is 100 acres in extent, and traversed by three known large and productive lodes, two of which are parallel, and the third runs counter. The junction of these lodes is at the midway of the set, and great deposits of silver lead are expected to be found there. The lode where now wrought upon is of splendid appearance, and yielding fully 1½ ton per fathom. The lode gets stronger and more productive as depth is attained. The mine may soon be made to return 60 tons of silver-lead ore per month, at a cost of 350l. The mine is in a mountain of considerable altitude, and suitable buildings and erections are already on it. The ground is easy for excavation, and being firm will require very little timber to support levels. There are water courses made, also tramroads from the mouth of the different levels to the proposed dressing floors, a small reservoir, and good roads to and from the mine. From the nearness of the railway the transit of ore is as easy as supplies of materials from and to the mines, will be cheap and easy. The property has been most favourably reported on by well-known mining engineers, who all agree that it will open up a mine of great wealth. The share capital is being subscribed for in Liverpool principally.

NEW COMPANIES.—Two or three good things in this way are about to be introduced for public support. The first is a very large sett of sulphur, mundic, and copper, the percentage of sulphur being 43. This property is being taken up by some of the leading vitriol and sulphuric acid makers, who have satisfied themselves that it will pay well. It was lately discovered in making a railway cutting. The pyrites could be raised and placed f.o.b. at Plymouth for 10s. a ton; and it is stated to be equal to Spanish at 22s. a ton. There are three large lodes, with a mile run on each. They will make copper in depth. There is no difficulty about selling the ore. The above lodes are all within 125 fms. of the sea, and will not take much capital to work this property, as all levels could be driven in, and obtain backs of 20 fms., 40 fms., and 60 fms. on the different lodes. The plans and printed reports will be ready very soon. There is also a very rich copper mine. It will shortly be examined by a practical man of great experience, and a plan of the ground and reports issued. It is stated to be grey and malleable copper ore. Fifty years ago 16 tons were raised from it, and sold at 73l. 10s. 6d. per ton, and 4 tons at 42l. The party who worked it removed the ore to another

Cwm Brynno Lead Mining Company

(LIMITED).

CAPITAL £30,000, IN 15,000 SHARES OF £2 EACH.

FIRST ISSUE OF 3000 SHARES AT PAR.

This company has one of the very best mines in Wales. And the fact of its being already thoroughly developed and worked entirely by water power only, should be sufficient to recommend it to investors.

The miners are now breaking down rich ore in several of the levels, and it is estimated that over £30,000 of ore can be got and dressed from what is in sight. There are two lodes in the sett untouched besides the one now opened, so there is an ample field for 20 or 30 years' working, and with the skipway renewed on the double principle, so as to facilitate the drawing of the ore, and improved dressing machinery, 100 tons of lead per month can be sent to market at a small cost compared with those mines which are worked by steam machinery.

Application for prospectuses and shares to be made to the Secretary, at the offices of the company, 14 and 15, St. Swithin's-lane, E.C.; or to any of the Branches of the National Provincial Bank of England.

EXTRACT FROM MANAGER'S REPORT MADE TO THE DIRECTORS AT THEIR BOARD MEETING, ON THE 2ND INST.

"I have to report that Cwm Brynno, after long quietude, is now actively at work. The weather having improved, so as to enable us to get water from the mountains, we have now all the wheels at work, and shall go on dressing as quickly as our present inferior dressing machines will allow; but we can never expect to make large returns till we get the new machinery erected, the importance of which I cannot too forcibly impress on the attention of the directors. The 80 fm. level end driving now continues to improve, and is already in a good course of ore intact from the 56 fm. level. The 80 fm. level slope is also good working for silver ore (samples of which you have before you, showing a much larger proportion of silver than that assayed). We are not at the 92 fm. level yet, but by continual pumping we must reach it in a day or two."

EXTRACT OF REPORT, APRIL 8.

"Since my last report of the 2nd inst. the water has been forked down to the 104, at which level, and also in the 92 west, lead ore can be seen worth 4 tons to the fathom. The machines are now busy dressing the ore on surface, and we shall have a parcel of 30 tons for sale this month, and every month will find an increase in our production."

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE PATELEY BRIDGE COMPANY (Limited).—Capital 30,000*l.* in shares of 1*l.* To acquire by purchase, or otherwise, the mines, minerals, farms, lands, cottages, smelting works, materials, rolling-stock, working plant, and other chattels, the property of the Pateley Bridge Lead Mines and Smelting Company (Limited), in liquidation, comprised in a certain agreement made between the debenture-holders, trustees of the said Pateley Bridge Lead Mines and Smelting Company (Limited) of the first part, the Pateley Bridge Company of the second part, James H. Nicolls of the third part, and W. J. Lavington, on behalf of the company, and the carrying out of the terms, payments, and satisfaction of the liabilities mentioned in such an agreement. The acquiring of any other lands, mines, mining property, machinery, plant, or other property appertaining to mining in Yorkshire or elsewhere. The working, raising, winning, and getting of lead ore, and other ores, metals, minerals, &c., and generally to carry on the business of a lead mining and smelting company. The subscribers (who take one share each) are—W. Baxter, 27, Belsize Park Gardens, gentleman; J. Carr, 1, Warrford-court, stockbroker; F. Butler, 2, Angel-court, stockbroker; J. Carver, 17, Cambridge-street, civil servant; I. Carr, 1, Warrford-court, stockbroker; A. G. Kitching, 7, Draper's-gardens, member of the Stock Exchange; B. Copper, 5, Winchester-terrace, Tottenham, clerk. The directors shall be Messrs. Carr, Bayter, Hutchinson, and Kitching. Qualification 100 shares; remuneration 250*l.*, when 10 per cent is earned, 375*l.*, to be further increased to 500*l.* if the dividends equal or exceed 20 per cent.

THE COLOMBIAN HYDRAULIC MINING COMPANY (Limited).—Capital 75,000*l.* in shares of 1*l.* fully paid up. To purchase the property and assets of the Malpaso Gold Washing Company (Limited), the Rica Gold Washing Company (Limited), and the Malabar Gold Washing Company (Limited), in the State of Tolima, United States of Colombia. To work, raise, purchase, dress, and prepare for market any ores, metals, precious stones, or minerals, and to sell, traffic, and deal in the same. To purchase or work any other mines or land in the United States of Colombia or elsewhere, also such plant and machinery as may be necessary to carry out the effective working of the mines. The subscribers (who take one share each) are—W. W. Holmes, 35, Finsbury-circus, accountant; A. Cobbett, Mitcham, no occupation; C. O. Rogers, 1, Winchester House, merchant; C. Hopkinson, Paul's Wharf, merchant; J. A. Cobbett, 53A, Old Broad-street, accountant; F. R. Wilson, 30, Finsbury-circus, secretary; J. T. P. Pachy, 59, Mark-lane. The first directors shall be Messrs. A. Cobbett, Peachey, Rogers, and Hopkinson. Qualification, 200 shares. Remuneration, 300*l.* and a percentage on all dividends paid.

THE BRYN-YR-ADR MINING COMPANY (Limited).—Capital 8000*l.* in shares of 10*l.* To purchase and acquisition of mines of lead and other minerals in Cardiganshire and elsewhere, and acquiring, by lease, purchase, or otherwise, lands, buildings, &c., in England and Wales, and selling or disposing of same; also the working of the said mines and minerals, and the smelting and refining or otherwise dressing ores or minerals, &c. The subscribers (who take one share each) are—T. Wilson, Liverpool, oil merchant; J. B. Smith, Salford, gentleman; J. B. Williams, Gateshead, coal agent; W. H. Wilson, Windbourne, oil merchant; J. Coltart, St. Michael's Hamlet, rope manufacturer; J. T. Bench, Liverpool, merchant; T. Goffey, Liverpool, solicitor. The first directors (who shall not be less than three or more than five) shall be Messrs. Wilson, Ashton, Williams, and Goffey; qualification, 50 shares.

LONDON MERCANTILE ASSOCIATION (Limited).—Capital 50,000*l.* in shares of 100*l.* To carry on a mercantile banking and financial business, both as principals and as agents. The subscribers (who take one share each) are—E. J. Dowlen, 13, Winchester-street; R. Baldwin, 1, Approach-road; A. E. Walton, Birmingham; H. C. Richardson, 6, Park-lane; T. E. Briggs, Stratford; J. D. Oates, Richmond; A. C. Briggs, 20, St. George's-square.

WILLIAM CAY AND PARTNERS (Limited).—Capital 50,000*l.* in shares of 100*l.* To carry on the business of shipowners, and the purchasing, selling, and navigating ships and vessels for the conveyance of passengers and goods. The subscribers (who take five shares each) are—W. Cay, South Shields; S. H. Maser, Newcastle; J. T. Hadley, South Shields; G. E. Henderson, South Shields; C. Dyble, North Shields; J. Malcolm, South Shields; M. Cay, South Shields.

THE GLOBE ACCIDENT ASSURANCE COMPANY (Limited).—Capital 10,000*l.* in shares of 14*l.* To carry on in England and elsewhere the business of an accident assurance and guarantee company in all its branches. The subscribers (who take one share each) are—C. J. D'Oyley Mears, Ilford; J. T. Simmet, Manchester; R. S. Gutteridge, Manchester; T. E. D. Plum, Mansion House Buildings; F. Henderson, 16, Clarendon-street; W. Hesketh, Birkenhead; T. Lancaster, Bootle.

GEORGE REDFORD AND COMPANY (Limited).—Capital 10,000*l.* in shares of 10*l.* To acquire by purchase the property until lately belonging to G. Redford at Tycoch, Carmarthen, including the cement works thereon, with all plant, machinery, &c., also a certain patent called "Conniff's Patent." To carry on the said works as manufacturers of bricks, cement, stone, &c., and sell the same. The subscribers (who take one share each) are—H. Mart, Kidwelly; R. H. Davids, Kidwelly; E. Threlfall, Ferrydale; R. Morna, Kidwelly; D. Anthony, Kidwelly; E. Lewis, Kidwelly; and D. Griffiths, Kidwelly.

THE STANDARD FIRE OFFICE (Limited).—Capital, 1,000,000*l.* in shares of 1*l.* To purchase or otherwise acquire and undertake the property and liabilities of the Belfast Fire Insurance Company (Limited), and the Standard Fire Office (Limited), or either of them, and to carry on in the United Kingdom or elsewhere the business of fire insurance in all its branches. The subscribers (who take one share each) are—J. Henry, Belfast; J. M. Moreland, Belfast; A. Lemon, Belfast; G. Raphael, Ballymena; J. Herdman, Strabane;

G. W. Lascelles, St. Leonard's; R. Thompson, Belfast; J. D. Barbour, Lisburn; E. Noel, 29A, Grosvenor-square; G. Bowes, 40, Brunswick-square; J. Draper, 22, Great Winchester-street; J. Rogers, 40, Threadneedle-street; M. Jaffe, 52, Lime-street.

THE POTTERY AND GLASS TRADES' JOURNAL ASSOCIATION (Limited).—Capital 10,000*l.* in shares of 5*l.* The purchasing the goodwill, business, &c., of the Pottery and Glass Trades Journal, and carrying on the said periodical. The subscribers (who take one share each) are—W. Adams, Richmond; J. Tibbitt, jun., Balham; G. H. Finch, Southwark; W. R. B. Watts, Upper Norwood; W. R. Horncastle, 61, Cheapside; W. H. Everitt, 34, Bouverie-street; J. G. Smith, 39, Craven-street.

THE LAND INVESTMENT COMPANY (Limited). Capital 10,000*l.* in shares of 5*l.* The acquisition, by purchase or otherwise, of lands, houses, and property in England and Wales; the erection of houses and buildings, and selling, leasing, and disposing of same. The subscribers (who take one share each) are—J. Bird, 173, Bishopsgate-street Without; J. Kennard, 14, Devonshire-square; W. MacDonald, Lower Edmonton; T. Denny, jun., 57, Belvidere-road; F. Whitmore, 14, Devonshire-square; G. Thatcher, 19, Bannet's Hill; T. Denny, 52, Southwark-street.

THE ENGLISH LAND AND INVESTMENT COMPANY (Limited).—Capital 50,000*l.* in shares of 10*l.* To buy, sell, let, lease, build on, mortgage, or otherwise deal in land of any description in the United Kingdom and elsewhere. The subscribers are—R. Kersey, Lewisham, 21; A. Bishop, Highbury New Park, 21; C. M. Shepherd, Lewisham, 21; G. R. Mason, Deptford, 21; H. Adams, New Cross, 21; J. Swift, Greenwich, 21; J. T. Ablett, 51, Colebrook-row, 5.

THE THARSIS COPPER AND SULPHUR COMPANY.

(TRANSLATION.)

REPLY to the observations made by "A Lawyer" in the number of the *Mining Journal* of April 5 instant concerning the litigation going on in France between the representatives of Gosse and Haselden, the former vendors of the Tharsis Mines, and the Tharsis Company (Limited).

1st—The lawyer asserts that if the Tharsis Company has hitherto failed to appear in the action instituted in France for the rescinding of the sale of the mines, and the annulling of the contract of Nov. 1 and Nov. 7, 1878, it is because it is subject only to the Court of Session in Edinburgh. This declaration is somewhat surprising, since by the terms of Articles 16 and 19 of the contract the Tharsis Company has taken the control of, and at its risks and perils, the pending actions, and has undertaken to represent the Huvela Company both actively and passively; and since, moreover (which, as it appears, is comprehensible in Scotland, but will not be comprehensible either in France or Spain), instead of the Tharsis Company demanding a guarantee from the vendor for the chattel of which it has paid the price, it is the Tharsis Company, on the contrary, which guarantees the selling company, and even its managing director (gérant) against all actions which might arise in consequence of the contract.

Moreover, the directors of the Tharsis Company are free to neglect to put in an appearance if that suits them; that being a question of personal responsibility between themselves and their shareholders. The intervals (délais) of resumption which this failure to appear has occasioned will expire in a few days; the Scotch directors can, besides, be certain that it is not to the Court of Session in Edinburgh that the confirmation of the French judgments will be carried, but rather to the tribunals of Spain, where the mines are situated, and this confirmation is not to be doubted in virtue of the international treaties which exist between France and Spain, and in the presence of judgments already given by the Spanish Courts, which have decided that the Huvela Company being French, it was for them to decide upon the rescinding of the sale.

2nd—The lawyer declares with regard to the merits of the action that which is alleged in the plaint is that the transferees not having paid the price of the mines due to those from whom they bought (auteurs), that it follows therefrom that that price will be a debt against the transferees; there is an inexactitude in this enunciation. The representatives of the original vendors do not ask for payment of the price—that is to say, of the shares which are due to them, but the rescinding of the sale of the mine which they made in 1855 and the annulling of the contract of Nov. 1 and Nov. 7, and this demand is based upon French law, and likewise upon Spanish law. They demand, besides, the reinstatement at Paris in the hands of a judicial sequestrator of the 6231 shares which accrue from those which they had deducted from those which they had already received upon their price in favour of the subscribers of the capital of the Huvela Company, and which have not been employed. These shares in case of liquidation ought to be restored to them; they were in the strong-box of the company, and were handed over by Mr. Mercier to Mr. Vélér, the manager of the Tharsis Company, and it is even contended that Mr. Vélér has taken them to Glasgow.

The lawyer recognizes, it is true, that the debt against the transferees is become a debt against the Tharsis Company, which by the contract of Nov. 1 and Nov. 7 last has assumed all the responsibility of the transferees, and he adds that this debt must be paid, whatever may be the amount, according to the Scotch law. This declaration is honourable, and the representatives of Gosse and Haselden are glad to acknowledge it. But then if such be the intentions of the directors of the Tharsis Company, why, when they were written to in the name of these representatives on Dec. 30, 1878, and Jan. 13, 1879, did they not even answer? and especially as they have advertised in the *Journal Officiel* of Paris that the Tharsis Company, having its offices at 138 West George-street, Glasgow, was entrusted with the liquidation of the Huvela Company. What, then, are the functions of a Scotch liquidator if he does not even answer letters which are written to him after he has carried beyond the seas valuable securities (valeurs actives) of the society which he is appointed to liquidate?

3rd—Lastly, the lawyer finishes by adding that the responsibility which the Tharsis Company has assumed is not, besides, for a large amount. Now, that is a relative question. If the French tribunal did not believe that it ought to decree the cancelling of the sale of the mines in the interest of the original vendors, in accordance with the provisions of the French law, the indemnity which would be due to them would be, first, for the 10,000 shares which remained due to them for the balance of the purchase money, plus the 6231 shares which belong to them, and ought to be restored to them in case of liquidation, plus also the 6231 shares, damages, and interest to be fixed by experts. Such has been the opinion formally expressed by the Council of the Republic in the decision which he gave at the public sitting of the Second Chamber of the Tribunal on Feb. 11 last. Now, if the sum represented by these securities is not of very serious consideration for the Tharsis Company, it is a very important one for the complainants (réclamants), since the value of the 16,231 shares coming to them, at the rate of 300*fr.* per share (the quotation adopted in the contract of Nov. 1 and Nov. 7), amounts to the sum of 4,878,300 *fr.* (105,132*l.*)

EPPE'S COCOA.—GRATEFUL AND COMFORTING.—"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected cocoa, Mr. Eppe has provided our breakfast tables with a delicately flavoured beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—*Sold in packets labelled "EPPE'S COCOA,"* Messrs. Eppe & Co., Messing's Chemists, London."

Mining Correspondence.

BRITISH MINES.

ABERLYN.—J. Roberts, April 16: There is no change to notice in the underground department since last week. The end in No. 2 adit is let to drive to four men, at 11*l.* per fathom, and the lode to cut through behind this end at 11*l.* per fathom. The lode to cut through in the bottom of this level, by two men, at 7*l.* per fathom. We have commenced clearing the level at the deep adit on the shale; we expect that by a continuation of this level we shall get into lead ground, and it will give us the advantage of cutting through the blend lode in the run of the level. We have got the jiggers to work to-day, and I hope that we shall be able to try the crusher on Friday. We are now getting full of blende stuff everywhere, both in the mine and outside, and have not much room to put any more till we commence crushing.

BEDFORD UNITED.—R. Goldsworthy, April 10: The lode in the 155 east is worth 4*l.* per fathom. In the 135 east the lode is much improved, being now worth 4*l.* per fathom. The lode in the 127 east is a fine promising lode, worth 1*l.* per fathom. The stopes are without alteration, and yielding on an average 7*l.* 1*l.* per fathom.

BETWS Y COED.—H. T. Haley, April 13: The lode in the deep adit east of cross cut is looking well, and producing fine stones of solid lead, but the ground is not in a settled state, being just at the point of the horse of ground. The lode in the winze from the shallow adit is worth fully as much as last week. There is no change to notice in the 20 end since my last. We shall start the engine on Saturday, leaving the rods and connections, &c., complete.

BLAEN CAELAN UNITED.—Jonathan Pelt, April 17: The 30 driving east from the bottom of the engine shaft extended 45 fathoms; the lode in the level is hard, intermixed with a good deal of carbonate of lime and spar, with both lead and copper interspersed. Last week and the early part of this week no progress could be made out of doors with dressing—heavy snow and frost at night; it has not, however, affected our pumping, and all is going on well.

BLUE HILLS.—S. Bennetts, P. Vian, April 12: There has been no lode broken in the 30 east end since last reported on. The stopes in the back of this level are worth respectively 10*l.* and 12*l.* per fathom. We are daily expecting to hold the B Burrow shaft with this 30 end, the ground being very nearly wrought.

BODIDRIS.—H. Hotchkiss, April 17: Mac y Fawell lode: The ore in the roof of present working presents much the same appearance, and we are dressing herefrom some fair stuff for the dressing-floors, and the lode looks very promising, and the ore-bearing part is about 3 ft. wide. We shall have another stope drawing of ore stuff to land on Monday or Tuesday next, when I believe it will be a better sample than the other. The lode in the 45 end is becoming more loose, with a good quantity of spar in the lode, and some lead ore and blende—a kindly looking lode, and is going still in the same direction. The ground at the engine shaft still keeps hard, but we have more spar mixed throughout; this means, I think, a change near at hand, and I am anxiously watching for it. I will write again to-morrow or Saturday, when I hope to have still better news with respect to the Mac y Fawell lode; but I may say I have the greatest confidence in its durability, and it is spoken of in the neighbourhood as a discovery likely to last.

CAMBRIAN MINES.—Thomas Glanville, April 12: Esgair Ffrait: Eastern Shaft: In the shaft sinking below the 70 yard level the copper part of the lode is yielding 2 tons per yard. In the 70 yard level, east of shaft, we are driving on the soft part of the lode by the side of the copper, which will enable us to take it away with less expense. The lode in the 70 yard level, west of shaft, is producing some good stones of copper ore, but not sufficient quantities to value. The stopes above the 70 yard level will yield 2 tons of copper or ore per yard. The 46 yard level, west of shaft, will produce 1 ton of lead ore per yard. We are still cross-cutting at Esgair Ffrait.

CLEMENINA.—J. Roberts, W. Sandoe, April 16: All the segments of the large water wheel are put in, and the buckets, &c., are being put in, and we hope that in two or three weeks the wheel will be completed. All other parts of the work are being pushed on as fast as possible.

COMBARTIN.—T. Comer, April 17: We have no change of any importance in the different points of operation in the mine to report to-day. Saturday next being our setting day, we will send you a full report for next week.

D BROOK.—J. Phillips, April 16: The 55 driving east, in the 20 end, is somewhat harder; the lode is producing a little lead ore, mixed with copper. The stopes in the 25 east continue to yield good ore, and the other stopes are also keeping up to their average produce. The tributaries have retaken their pitch under adit at 5*l.* per ton. The crushing and other machinery is in good order, but two or three days' frost has delayed the ore dressing.

DENBIGHSHIRE CONSOLIDATED.—A. Francis, April 17: Since our last report the 112 east has been driven 2 yards 1 ft., and should the important improvement now taking place in the lode continue, we ought soon to be in a good course of lead ore. In our 112 west level, which has been extended since our last report 3 yards 2 ft., we have, as we expected, intersected another lode. As the influence of the powerful vein we have been driving upon naturally affects the new intersection, we shall have to drive a little upon its course before reaching the settled ground. So far as we have gone the indications are very promising, small lumps of lead being obtained in the driving. In our workings at the 65 lode at the 80 there is no change to notice since our last report. We are busy fixing the new winding-engine, which will, we believe, answer its purpose admirably. There are good piles of lead ore on surface.

D'ERBY CONSOLS.—J. Roberts, W. Sandoe, April 16: The end driving to the bottom of the mine is set to six men, at 9*l.* per fathom, for the month. The lode was our lode is now nearly upright, and rather smaller than it has been for the past week or two. The character of the ground is without alteration.

D'ERBY MOUNTAIN.—J. Roberts, W. Sandoe, April 16: The No. 1 is set to four men, at 8*l.* per fathom; the lode is rather smaller but is still very wet, and contains strong patches of lead and blende, still a kindly lode. The No. 2 end is set to two men, at 7*l.* per fathom. There is a good change in both the old and country rock. A foot in width of the lode produces good blende, mixed with good lead, and is likely to improve. This is being dug out what we said about six weeks ago—that we fully believed that the lode would become productive, and no great distance of driving, or as soon as we got into another lode. We are expecting every day to hold the winze at this level to the rise in No. 3. There is now no change in either. We have set the rise to two men, at 15*l.* per fathom. At the Gora shaft we shall to-day make everything ready to start winding from the bottom with the steam-engine to-morrow morning. We have 2 fms. to sink this shaft to reach the No. 5 adit, and that level is cleared and secured to within 21 fms. of the shaft, and if we can command the same speed in clearing No. 5 for the next month as we have done in the month past, we shall effect a communication.

DEVON GREAT CONSOLS.—I. Richards, April 17: Wheel Emma: Inclined Shaft: In the 137 east, west of Friend's cross-cut, driving is being continued by the side of the lode, the ground being favourable for progress. In the 47 west the lode is 5 ft. wide, and worth 5 tons of copper ore, or 15*l.*, and 3 tons of muddle per fathom. New Shaft, New South Lode: In the cross-cut south at the 205 the lode has been cut into about 5 ft., and is composed of capel, quartz, fluor, prase, and small quantities of muddle and copper ore. In the 190 east the lode part being carried 4½ ft. wide, is composed of capel, quartz, peach, and copper ore; worth 3 tons, or 9*l.*, and 5 tons of muddle per fathom. In Knot's winze in bottom of the 190 east the lode part carrying 5 ft. wide, is worth for length of winze (9 ft.) 5 tons of copper ore, or 15*l.*, and 6 tons of muddle per fathom. In the 190 west the lode part being carried 4½ ft. wide, is composed of capel, quartz, peach, prase, and good stones of copper ore, and 4 tons of muddle per fathom. In Floyd's winze in the bottom of the 175 east the lode is worth for length of winze (9 ft.) 6 tons of copper ore, or 18*l.*, and 4 tons of muddle per fathom. In the 175 west the lode is worth 10 tons of copper ore, or 30*l.*, and 4 tons of muddle per fathom. In Hookaday's rise in the back of the 175 west the lode is worth for length of rise (9 ft.) 4 tons of copper ore, or 12*l.*, and 3 tons of muddle per fathom. In Doney's winze in the bottom of the 130 east sinking is being continued by side of the lode. In the Railway shaft, which is now down about 11 fms. to the 180, the lode part carrying 1½ ft. wide, is worth for length of shaft (10 ft.) 4 tons of copper ore, or 12*l.*, and 2 tons of muddle per fathom.

EAST CRAVEN MOOR.—David Williams, April 10: The vein in the 51, east of new shaft, is steadily improving, being at present 3 ft. wide, composed chiefly of limespar and gossan, and producing saving work for dressing. A rise behind the end is in a vein 6 ft. wide, worth 4 tons of lead ore per fathom. The 54 west is worth 1 ton of lead ore per fathom. In the 30 west the vein is 2 ft. wide, and producing occasional stones of ore. In the cross-cut south from the 43, west of shaft, the ground is hard and spare for driving. In the 58 west, upon the end vein, the ground is easier to work, and better progress is being made. We have in the bin 32 tons of clean ore. I hope to have shortly a parcel of 50 tons ready for smelting.

EAST ROMAN GRAVELS.—A. Waters, April 17: We have the pumps ready on the mine for fixing at the 80 or bottom level, and we begin to mow to cut ground for fork, &c., preparatory to deepening the boundary engine-shaft to another level. The lode in the 80, south of shaft, is 4½ ft. wide, worth ¾ ton of lead ore per fathom. No. 1 pitch in the 75 south is worth 1½ ton per fathom. No. 2 pitch, south of ditto, is worth ¾ ton per fathom. The pitch in the bottom of the 65 south is worth 12 cwt. per fathom. The pitch in the bottom of the 50 north is worth 1 ton per fathom. The pitch in the bottom of the 50 south is worth ¾ ton per fathom. The pitch in the back of the 40 north is worth ¾ ton per fathom. The pitch in the 35 north is worth ¾ ton per fathom. The pitch in the bottom of the 20 south is worth 12 cwt. per fathom. The pitch in the back of the 6 south is worth ½ ton per fathom. There are nine pitches altogether at work by 24 men, at an average tribute of 4*l.* 13*s.* 8*d.* per ton, tributaries paying all cost, including 20*s.* per ton for dressing. We are to-day sold 30 tons of lead ore for 27*l.* 10*s.*

WATON COOPER.—George Rowe, George Rowe, jun., April 13: The lode in the 117, west of cross-cut, is 6 ft. wide, producing arsenical sand, with good stones of ore, altogether of a very kindly appearance. The lode in the 105, west of cross-cut, is carried 7 ft. wide, producing 2 tons of muddle and ore per fathom. The lode in the bottom of the 135, west of winze, is worth 8*l.* per fathom. The lode in the bottom of the same level, east of said winze, is worth 15*l.* per fathom. The stopes in the back of the 105 is worth 9*l.* per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—Wm. Taylor, W. J. Taylor, April 14: The 102, &c. This finished we shall at once open east and west at the 90 under the ore ground gone down in the 90. In the 102 cross-cut south we have cut another branch, with ore and muddle, letting out more water, which has further drained the 70, and we think there is more lode still further south. This cross-cut will be pushed on with greater vigour now the skip road is about completed to draw away the stuff. In the 90 west cross-cutting at this level we have not yet come to the north lode, but from the branches of ore met with we are evidently near; it is important to hole to the No. 1 winze on this lode as early as possible, where we have some good ore ground. No. 2 winze, sinking from the 75, on this lode, is worth 15*l.* per fathom. In the 90 east the ground is favourable, but the part of the lode driven on is now small and poor; we are cross-cutting south behind this end, but we have not met with any more lode yet. No other change to notice in the ends. The stopes and pitches continue about the same value, and are turning out their usual quantities of ore. The boiler of the pumping-engine sprung a leak on Saturday, which we are repairing as fast as possible; this will cause a few days delay in working the deeper levels.

GORSEDD AND MERLLYN CONSOLS.—W. Edwards, April 17: The 70 level driving east is looking better than it has done for some time. The ground keeps hard, so that progress since the last report has only been 1 yard 2 feet. The spar with the lead is much whiter than I have seen it in most parts of the mine,

whilst the vein is widening as we proceed: I expect a further and great improvement in this end very quickly. In the 70 driving west the men have driven 8 yards 6 inches since the last report; there is strong blende mixed with the lead ore. I think this end after a little further driving will open out with the usual quantities of lead ore. There is no change to notice in any of the other pits, which for lead ore. There is no change to notice in any of the other pits, which for lead ore. There is no change to notice in any of the other pits, which for lead ore.

GREAT HOLWAY.—April 17: Considering the rough weather we have made very good progress in the erection of the machinery since our last report. The remaining portion of the plant, &c., including the steam boiler, have all arrived and the unloading nearly complete. The boilers are being rapidly fixed, and with a few weeks of fine weather the surface arrangements will be nearly complete. At Garden shaft the men engaged both in the eastern and western ends are in full work opening up the ground for extensive future operations, and we have been raising therefrom splendid lead ore.

GREEN HURTH.—William Vipond, April 11: The end south on No. 1 cross vein in the 30 continues to yield from 12 to 14 tons of ore per fathom, and there has been no material change in it during the week. There is still the same mass of ore going down in the bottom. The north end is yielding 6 tons per fathom, with better ore still going down in the sole of this. We have no change in either, but splendid ore is being raised from the new dump to the new shaft on Monday. As soon as we get a clear start I shall put as many men to this as can work at it. We have another wagon of ore ready for delivery, but it will be Monday before it is at Aston, as Good Friday is a general holiday here. The new pump will go to work on the north side of the bottom of incline, and on the west side of No. 1 down to the level of the bottom of incline, and on the west side of No. 1 down to the level of the bottom of incline.

HERODSFOOT.—P. Temby, April 17: The end in the 305 south is worth 1 ton of lead ore per fathom. Within the past fortnight the end has been very changeable, and the ground has become better for driving. No. 1 stop, of this level, is worth 15 cwt. of lead ore per fathom; No. 2 stop is worth 12 cwt. of lead ore per fathom; No. 3 is worth 18 cwt. of lead ore per fathom. The end in the 100 north is 5 ft. wide, and worth 6 cwt. of ore per fathom, and letting out a 100 north of water. The new stopes in the back of this level is worth 12 cwt. of ore per fathom. The end in the rise over the 175 for the new shaft is poor; here the men are making good progress. In the rise over the 160 the end has made a splice, and is again improving, now worth 1 ton of rich ore per fathom; here we are opening up some good stoping ground. We have three pairs of tri-buters at work, and who are making good wages; others are daily searching for better pits. At surface we are busy preparing for our first sampling on Monday next.

HINGTON DOWN.—Thomas Richards, April 9: The tribute ground in the back of the 120 and 110 continue to produce the usual quantities of ore. The end in the back of the 45 and bottom of the 15 is producing 3 tons of good ore, or 18 cwt. per fathom. The branches in the deep adit are not yet united; they are now about 2 ft. apart, going on nearly parallel, both producing rich stones of ore. It is intended next month to open further westward on these branches, and extend the level southward to the 110.

—Thomas Richards, April 16: The tribute pitches in the back of the 120 and 110 are producing on an average about 10 cwt. of ore per fathom. The end in the back of the 45, on the western part of the mine, is a good course of ore, worth 3½ tons per fathom. In the deep adit driving west the end is becoming more defined, and is principally composed of capel and quartz for about 2 ft. wide, which are producing some rich stones of ore, and is very promising. The ground in the deep adit cross cut south, being driven for intersection of the other levels, is favourable.

LADYWELL.—Arthur Waters, April 17: The new south shaft is 11½ fms. below the 16; ground still driving south of Webster's winze, and the end of the above shaft, now north to sparry ledge, but have not yet reached the ore-ground south of the 16 south; shall get into this, I expect, some time next week. The end in the 16 fm. level forebrest is at present very narrow, the ore-course having twisted up to a mere joint. The end will no doubt widen out again as we go forward. The stopes in the back of this level behind the end is worth 1 ton per fathom. Along the bottom for 12 to 13 fms. in length the ore-course is worth 1 to 2 tons per fathom, and we hope to be able to work this ground from the 33 south of Webster's winze directly. The tribute pitches are rather poor. We have to day sent out samples of 20 tons of lead ore for sale next week.

LEADHILLS.—Arthur Waters, April 17: Monthly Report: Brown Vein: The tribute pitch in the back of the 30, south of Glenogran shaft, is working by three men, at 90s. per ton, worth 25 cwt. of lead ore per fathom. Gripps' adit, north of shaft, is into a change of ground, and the end is again yielding stones of ore, and improving as we go forward. The stopes in the back of the 26 north is worth 22 cwt. of lead ore per fathom. The tribute pitch in the roof of Poultishiel by three men, at 90s. per fathom. —Hopeful Vein: The pitch in back of the 20 north by four men, at 90s. per ton. —Katherine Vein: The pitch in back of Gripps' adit, south of Mull's cross cut, by two men, at 90s. per ton. —East Slay Vein: Gripps' adit to drive south, by four men, at 90s. per ton. —West Slay Vein: Gripps' adit to drive south, by four men, at 90s. per ton. —George's Roust Vein: Gripps' adit, north of the above level, is into harder ground than for some time past, but there is no ore to value in sight at present. —Brown's Lode: The 70, south of Jeffrey's engine shaft, continues to open out a productive lode, worth 3 tons per fathom in the present forebrest. Newbigging's winze, from the 55, is holed to the above level, and the ground available for stopes. No. 1 stop, in the 70 south, is worth 8 tons per fathom. No. 2 stop, in the 70 south, is worth 8 tons per fathom. The stopes in the bottom of the 55 south, of the said winze, is worth 30 cwt. per fathom. No. 1 stop, above the 55 south, is worth 2 tons per fathom. No. 2 stop, south of ditto, is worth 1½ tons per fathom. The pitch in back of the 41 north by two men, at 90s. per ton. The pitch in back of the 41 south by two men, at 90s. per ton. The 20, going south of Jeffrey's shaft, towards No. 2 run of ore ground, is into a lode 3 ft. wide, and the end is now within about 13 fms. of the north end of the rich ground in question. The pitch in back of the 20, south of shaft, by four men, at 90s. per ton. Polley's vein, below the 10 south, going down in front of the said 20, is opening out a lode worth 3½ tons per fathom. This winze will be done in time for the coming up of the end, and when the two points are holed we shall have a rich section of ore ground available for returns. Gripps' adit, south of the above point, is into another run of ore ground, the present value of the lode being 1 ton per fathom, and improving.

Rail Vein: The winze below the 20, south of No. 2 winze, south of Reid's shaft, is yielding stones of ore, and is being pushed as a trial point. A pitch in the back of the 20, south of ditto, by four men, at 90s. per ton. A pitch in the same level, north of No. 2 winze, by four men, at 80s. per ton. A pitch in the back 10, north of No. 1 winze, by four men, at 90s. per ton. A pitch in the roof of Gripps' south, by four men, at 90s. per ton. A pitch in the back of ditto south, by four men, at 90s. per ton. A pitch south of ditto, by two men, at 90s. per ton. A pitch still south of ditto, by four men, at 90s. per ton. —Watson's shaft: This shaft is now communicated by a cross cut to Gripps' adit, south from Reid's, and we are now extending Watson's cross cut, west of Highwork vein, towards old Rail vein and mine proper; 5 fathoms should put us into it, not under, the old men's stopes on Rail vein. —Jeffrey's Vein: Gripps' adit, north-west on the above level, is still without ore to value; we should get under the old men's workings here in the next 10 to 15 fathoms further driving. A pitch in the back of this level, by two men, at 90s. per ton, worth 2½ tons per fathom. —Mill Vein: A pitch below Gripps' shaft, by four men, at 90s. per ton. —Carr's Vein: A pitch in bottom of Gripps' south of Moss shaft, by four men, at 90s. per ton. The weather is now favourable for dressing operations, and the stocks of ore will be made available for market without delay.

MINERAL CORPORATION OF GREAT BRITAIN.—William Bennetts, April 16: HAFNA AND HIGH HAFNA MINES: The lode in No. 3 adit end is still looking well for lead and blende ores; considering the large pieces of mine at ground level, I would strongly recommend the driving of No. 4 level with all possible dispatch, as I am certain that by so doing we shall open up a splendid mine at this level. At surface everything is progressing satisfactorily, and if the weather continues as fine as it is at present the embankments of the reservoir will be completed by the time specified in my last report.

GREAT D'ERESBY MINES.—Everything is in readiness here to receive the engine, which I am daily expecting.

BRYN CANADON MINES.—We have commenced to sink a winze in the bottom of the adit level, and I am pleased to say that the lode is looking well, better than I expected to find it, being so near the surface.

MONTEGG GORDON.—James G. Green, April 16: I have pleasure in informing you that the 12 west has improved the ore body to a large extent, and the quantity of lead and blende, worth of the former 12 cwt. per fathom. There is no other material change to notice at any other point underground since I wrote you last. Dressing is being pushed forward as much as possible, but the water is getting short to do fully duty.

MORFA DU.—T. Mitchell, May 16: We have no change calling for any special remarks this week, and everything continues to go on in the usual regular order. We have brought home the boiler all right.

NANT-Y-MWCH.—Abraham Francis, April 16: We have taken out the collar of the engine shaft, and replaced it in a new and stronger one taken out of a firm and lasting job. We have also put our machinery in readiness for pumping and resuming operations when ordered to do so.

NEW BRONFLOYD.—Thomas Kemp, April 16: Middle Lode: The north part of the lode carried in driving the 73 and west of Currie's cross cut I am pleased to say is presenting a much better appearance than for some time, being composed of a killas and spar, containing more lead ore, and a much stronger feed of water is issuing from the breast, which I consider to be favourable indications for good results. The lode in the 52 end, east of No. 2 shaft, is without any change to notice since last report, and the same remarks will apply to the winze which is being sunk on the north part of the lode, in the bottom of this level. Owing to the dry weather our surface water for the present is very limited, consequently hauling and dressing are somewhat impeded. However, I propose sampling 20 tons of silver-lead ore next week. Machinery in good order.

4th D'ERESBY.—W. Bennetts, April 10: The lode in No. 2 adit end is coming from the end in good saving work for the dressing floors.

—April 17: No. 2 Adit: The lode maintains its size and character, being full 4 ft. wide, producing good lead that will pay well.

PANDORA.—H. Nottingham, April 10: We have been hindered in our bottom coming loose. We have have it keyed on again, and started to work. We have done the wheel pumping for the last two days; in consequence of this we have done the 23 end in these levels since my last. The only change is an improvement in the 23 end south on Goddard's lode, which is becoming productive again, and resume work in the 33 rise south here. We shall break some good lead when we stoping in a part of the No. 2 over 23 south, in the meantime these men are doing the 23 end south, and driving 23 south on new lode. The 23 end south, on new lode, shows signs of improvement by yielding a little lead along with the blende. No. 2 stop, over this level, is worth 1 ton of lead and 15 cwt. of blende to a fathom. The 23 end going north, on Goddard's lode, blende intermixed, but not enough to value. No. 1 winze, south of shaft cross-fathoms, has fallen off in value, worth now 15 cwt. of blende and a little lead per fathom. No. 2 winze is now chiefly productive of blende, but is likely to improve again shortly. Dressing is being carried on regularly, and we have a fair amount of stuff to work upon, which we are getting chiefly from No. 2 stop;

but I hope to have some good stuff from the bottom next week in addition to this. We resume work in bottom to-night.

FANDORA.—H. Nottingham, April 17: Since my last report we have not been able to do much in the bottom levels, through having had to stop the engine several times with the feed pump out of order, but I think we have now remedied this, and trust we shall not have the same hindrances again. The 33 drivings are thus without change calling for remark. The men have been stoping and sending up stuff from No. 2, over the 23 shaft, when not able to go to the bottom. This stop is still worth from 18 to 20 cwt. of lead and 15 tons of blende to a fathom. The 23, driving south on new lode, is looking promising, yielding a little lead and blende, but not enough to value. —Goddard's Lode: The 23, driving north of shaft cross cut, has an improved appearance, but is not yielding ore to value. No. 1 winze, sinking south of shaft cross cut, is yielding blende and a little lead, with ground close and sparry for sinking. No. 2 winze is also rather poor at present, but we expect to see the lode open and become productive again as we go deeper. Dressing and surface work going on satisfactorily, and machinery in good working order.

PAKYS MOUNTAIN.—T. Mitchell, April 16: The ground in the 90 south continues hard, which is just what we expected about this place. The 90, east of the cross cut, is still producing a little copper ore, and looks promising as we advance in this direction. The water coming out of the forebrest is very strong for copper. We have commenced cleaning up the precipitation pits.

PATELEY BRIDGE.—C. Williams, April 17: The Rake vein, in the 30 east, maintains its former value—15 cwt. of lead ore per fathom—and is very promising for improvement. The north-west end on Fielding's vein, in 30, is looking exceedingly promising, and producing some fine solid lead ore; and we shall have a good piece of stoping ground laid open here soon, which can be taken away at a good profit. The Lumb vein, in 20 west, is 8 ft. wide, and worth from 15 to 20 cwt. of lead ore per fathom. Fielding's vein, in 20 north-west, is 3 ft. wide, and worth 18 cwt. of lead ore per fathom. The tribute pitches are producing lead ore as for some time past. The erection of the new machinery is proceeding as favourably as the nature of the work will admit of.

PENHALLS.—S. Bennetts, E. Vian, April 12: The only change to notice in the rise in the back of the 70 east end is the intersection of a small gossan, and the lode not being yet cut. The lode in the vein below the 20, at Flat road shaft, is producing a small quantity of tinstuff, and the same lode in a winze below the 30 further east is also yielding some low quality stuff. This lode has produced some good branches of tin near those points, and we hope to see an improvement here shortly.

PENNANT.—April 17: The stopes in the roof of the 40 east, on the south lode, continue to yield lead ore in satisfactory quantities. In the driving east at the 40 the lode maintains its character, and is gaining strength as we advance on its course. We have a great extent of unworked ground in this direction, so that it is satisfactory to know the present composition of the lode. We have a nice pile of lead on the floors.

PRINCE OF WALES.—John Andrews, April 16: There is no change in the tribute pitches, which are looking much the same as for several weeks past.

ROMAN GRAYELS.—Arthur Waters, April 17: The 110, north of new shaft, is worth 2 tons of lead ore per fathom. A rise in the back of this level is also worth 2 tons per fathom. The 110, south of shaft, is worth 1 ton per fathom. The 80 south is worth 3 tons per fathom. The 80 south is worth 1 ton per fathom. A winze in the level going down on the hanging-wall part of the lode is sunk 6 fms. below the 80 south, and is now driving east and west on side vein from the cross cut. Low south of the lode is worth 1 ton per fathom. The 65 south is worth 3 tons per fathom. A winze below this level, north of old shaft cross-cut, is worth 2½ tons per fathom. No change in the 40 south since last reported on. The stopes are yielding the usual quantities of lead ore. We sold 200 tons of lead ore on Saturday last for 183s. 15s.

ROOKHOPE.—Thos. Tonkin, April 17: Adit Level: At the forebrest in side vein the ground is now very hard, and progress slow, but the ore-producing qualities of the vein are the same as last reported—2½ cwt. to the fathom. In the stopes near Gin shaft we are getting a little ore, and the ground improves, now yielding 8 cwt. to the fathom. In the 15, in the driving east and west on side vein from the cross cut, Low south of the lode is worth 1 ton per fathom. It is worth for ore on the average 8 cwt. to the fathom, and it continues to yield us some white ore (carbonate of lead). The stopes near Gin shaft, above this level, are promising to give us a fair yield. In the 25 we are pushing forward the rise on the side vein to communicate with the 15, and so open up stopes between these two points, as the ore-bearing nature of the ground fully warrants; the ground is fairly easy, and the rise produces some ore; in two or three weeks the work will be completed. In the drivings beneath this level we are getting some good ore both above and below a 1½ or 2 ft. bed; the ground is now worth 2 cwt. to the fathom; this, too, is in the driving east and west on side vein from the cross cut. The ground is not so hard, and yields 9 cwt. of ore to the fathom; this is on the main leader or vein. In the 42 we are stoping some ground near the Gin shaft, worth 8 cwt. to the fathom, and which I hope will improve as we get into a different soil. There is also some ore in the rise near Low shaft; these are on the central or main leader. The ground in the heading at stopes, on side vein, near Low shaft, has not changed since last reported on. —Dressing Operations: Our crushers and classifiers are new in good working order, and we are getting into a better position both on surface and underground, notwithstanding the unpromising weather and depression of the tin market.

SOUTH ARK.—Henry James, April 17: The shaft is being sunk with satisfactory speed. There is no change in the lode since last week. The lode, east and west from winze, is in fork, and the driving of both ends resumed—east by six men, at 11s. per fathom, lode worth 15s. per fathom; and west by four men, at 11s. per fathom, lode worth 35s. per fathom. Owing to the scarcity of water for the drawing wheel, we are unable yet to clear the accumulated stuff in the 100 west from shaft, but we are making every effort to clear it as soon as possible, when the driving of the end will be resumed. We are in course of stripping down the lode in the 80 end, and it is looking well, worth 35s. per fathom. No. 1 stop, in the back of the 90 is very rich, and worth 50s. per fathom. No. 2 stop, has fallen off in little in value, worth 15s. per fms. No. 3 stop, is worth 12s. per fms. No. 1 stop, in back of the 80 is worth 28s. per fathom for width of lode. No. 2 stop, is almost worked to poor ground; present value, 7s. per fathom. Owing to the little supply of water this week we have been unable to carry on the drawing and dressing by night with satisfaction; however, every energy is put forth to make the best of it.

SOUTH MOLTON CONSOLS.—T. Harris, T. May, April 17: The ground in the adit cross cut continues much of the same character as when last reported, it still being stiff blue killas, but we are hoping we shall soon get through this run into an open and easy ground quickly.

SOUTH TOLCARN.—William Rich, James Knotwell, April 11: We have intersected two branches in the 35 cross cut north; these branches will drop into the main lode in depth probably in 10 or 12 fathoms deeper. The ground in the cross cut since we passed these branches is hard; we have, therefore, suspended the cross cut, and put the men to continue the rise above the 35 on the course of the lode. The lode in the 35 end east is about 3 feet wide, of a very kindly appearance, and letting out more water than usual.

TANKERVILLE.—Arthur Waters, April 17: Watson's engine shaft will be deep enough for the end of next week, after which time we shall commence cutting ground for plat and push forward a cross cut to the great lode without a moment's delay. We all feel anxious about cutting into a strong lode and rich course of ore at said depth. The 206 west is now into a strong, wet, ore lode, and from what I saw in the end to-day I am inclined to think a large cavity and the commencement of the western run of ore ground are near at hand. The 206, east of shaft, now driven about 30 fms., is opening out a strong, wet, ore lode, worth 14 to 2 tons per fathom. There is a prospect of a cavity in this forebrest too shortly. The stopes in the back of this are worth together 7 tons per fathom. The 135 east is a strong character, and worth ¾ ton per fathom. Other points in the tribute pitches are for some time past. We have to day sold 80 tons of No. 1, and 20 tons of No. 2 quality ore, for 90s.

TEESDALE.—John Slack, April 9: West End Forehead: There has not been much done in the vein portion of this working since my last, the men being mostly engaged laying it in by the plate side. What little, however, has been done shows it to be fully as good as ever, and uncommonly mineral like, as far as can be seen. It will be necessary to put a siding in here by and bye for the wagons; there is nearly sufficient width to enable it being done at little further expense. —West End Stop: Good progress has been made in shooting down the vein in the working of the last few days, and some extraordinary rich bones have been sent to the surface. Several wagons must have contained from 1½ to 2 bins of lead ore, and the stop is undoubtedly very rich, and fully as good or better than previously reported; one shot was fired while I was there that would yield not less than 2 bins of ore. Dressing is progressing very satisfactorily, and every effort is made to push on all the parts—silice, chata, and house. We have got another new tub fixed at the chist mill, which is working capitally. I think I have found an excellent place for making a storage dam that will retain sufficient water to enable us to dress during a drought, and will only cost a few pounds. As soon as the men get thoroughly out of the ground, we shall commence operations at it. I have thought it necessary to make this timely provision in anticipation of a droughty summer, and it is now no longer a question of finding the ore, but getting it dressed and sent to market.

TEMPLE.—April 16: There is no change whatever to report in the mine underground. All points are being pushed on with all possible speed. A winze has been commenced in the bottom of No. 2 to communicate that level with No. 1. At surface the operations have again been delayed by very severe weather, with snow and high winds, but all possible dispatch is being used to complete the dressing machinery and floors. A set of men have been commenced to enter a ground from the side of the mountain, near the mouth of No. 1 level, to make room for a wheel-pit, where it is proposed to erect a 30 or 40 ft. water wheel for pumping and drawing purposes, which will enable the course of ore now in the bottom of No. 1 level to be followed to a greater depth.

WEST CRIVEN MOOR.—David Williams, April 17: Blackhill Level: Excellent progress continues to be made in driving this level. The vein in the end is 3 ft. wide, and producing occasional stones of ore. I have set a pair of men to rise in back of level (at a point 7 fms. east of shaft) to prove the vein, and I am pleased to say that we are a good branch of ore worth fully 12 cwt. per fathom. No. 2 stop, in back of level, is worth 20 cwt. of lead ore per fathom. Other points without change to notice this week.

WEST WHEAL PEEVOR.—W. T. White, April 12: Mitchell's engine shaft is now down fully 8½ fms. below the adit level. Another four weeks' sinking will be sufficiently deep for cross cutting at the 10. The ground now in bottom of the shaft possesses all the indications that are congenial for the production of mineral, and I have no doubt whatever but that something good will be met with in the cross cut soon to be driven.

WEST WHEAL TOLCARN.—April 17: The lode in the 165, west of Taylor's shaft, is 5 ft. wide, and yielding fully 1 ton of ore per fathom. This level now drains all the water from the 145, which we consider to be a favourable indication. The lode in the 145, west of shaft, is 4 ft. wide, and yielding 1½ tons of ore per fathom. The winze in the bottom of this level on the south part of the lode is yielding 3 tons of ore per fathom. It looks very promising now to be able to sink this winze without any hindrance from the water. The lode in the 135, west of shaft, is 3 ft. wide, producing a little ore, but not sufficient to value. The lode in No. 7 winze in the bottom of the 125 is 2 ft. wide, and yielding about 1 ton of ore per fathom. The stopes in this part of the mine on the whole are a little improved. —Richard's Vein: The lode in the 95, west of shaft, is 5 ft. wide, and producing some very good stones of ore. The lode in the 65, west of shaft, is 4 ft. wide, spotted with ore, but nothing to value. There are no signs yet of the cross-course, but the end is getting much wetter and more sparry. We sampled on Tuesday last computed, 226 tons of copper ore.

WEST WHEAL VOR.—S. Harris, April 17: I have been underground this morning, and find the progress in driving to be very satisfactory; we are driving fully 3 ft. per week; the lode in the present end is greatly changed in its nature, the munda is entirely gone, it continues its size, and is composed of peach and

tin capel, but not sufficiently productive to give it a value. I have assayed samples from it this morning that contain a little tin, but at the present price for tin it would not pay for returning, notwithstanding I never saw a more promising lode; but as we have driven about 10 fms. on the lode, and so far without finding tin in paying quantities, I would open east of cross cut on the Great Vor lode, on which our new shaft is sunk, by having your permission to do so, and should like to open a little on this lode as well before hoisting the new shaft.

WHEAL CREBOR.—John Andrews, April 16: The lode east is poor. The lode in the 168 east is 5 ft. wide, and worth 12s. per fathom. The lode in the winze in the bottom of the 108 is 6 ft. wide, and worth 1½ tons per fathom. We are making good progress in rising in the back of the 48 against the new shaft. The lode in the new shaft is 2 ft. wide, composed of quartz, capel, munda, and copper ore, but not sufficient of the latter to value.

WHEAL GRENVILLE.—T. Hodge, April 15: There is nothing new in the bargain to report this week. Everything is going on regularly and well. We shall set Goddard's shaft to sink below the 165 next week. We hope to start the boring machine on Thursday or Friday next.

WHEAL PEEVOR.—W. T. White, J. Pryor, April 12: Setting Report: The 80 to drive west, at 4s. 10s. per fathom; the lode is worth 32s. per fathom; this end is opening up a fine run of ground. The 70 to drive west, at 6s. per fathom; the lode is worth 13s. per fathom. The 60 to drive west, at 5s. per fathom; the lode is worth 20s. per fathom. The 48 to drive west, at 6s. per fathom; the lode is worth 15s. per fathom. The winze to sink in bottom of the 48, at 8s. per fathom; the lode is worth 25s. per fms.; this winze is coming down in advance of the 60 end—an important point. The 38 to drive west, at 6s. per fathom; the lode is improving, worth 32s. per fathom. The rise in the back of this level at 7s. 10s. per fathom; the lode is worth 20s. per fathom. The 36 to drive east of main rise, at 6s. 10s. per fathom; the lode is worth 10s. per fathom. The 38 to drive east and west of cross cut (near the engine shaft), at 6s. and 2s. 10s. per fathom; the lode is worth in each 8s. per fathom. The rise in the back of the 36 west at 5s. per fathom; the lode is worth 10s. per fathom. The 26 to drive west, at 4s. 10s. per fathom; the lode is worth 10s. per fathom. The main rise now being sufficiently high for another level, we set the 16 to drive west of the same, at 8s. per fathom; the lode is worth 8s. per fathom. The deep adit level to drive west of cross cut, at 4s. 10s. per fathom; the lode is worth 8s. per fathom. We have also set five stopes at prices varying from 55s. to 4s. 5s. per fathom; the lode is worth in each about 13s. per fathom. Our tribute setting next month. The mine still looks well, and continues to return large quantities of tin.

WHEAL UNY.—William Rich, Matthew Rogers, April 13: The lode in the 179, west of Hind's, has a kindly appearance, and carries good stones of tin. The lode in the 160 end west is worth 10s. per fathom. The 160 end east is poor. The 150 west carries stones of tin. The 130 east is worth 5s. per fathom.

[ADVERTISEMENT.]

LLANRWST MINE, MR. G. S. GREGORY, AND ENDEAN AND CO.

Sir,—The statements in Mr. Gregory's advertisement of last week are not reliable—hence my reply. It is not a fact that 100 East Craven Moor shares were recently "hawked" through the market at 5s. No shares have ever been "hawked" about. They could be sold at any time. It is a fact Mr. Gregory and Mr. Endean have offered in their circulars and written and offered shares to the shareholders for a purpose "at prices they could not and did not supply them for." My proofs are the books of the company and letters forwarded by my clients who applied for the shares so offered, but failed to obtain any. Mr. G. S. Gregory further states: "It would be almost, if not quite, impossible to get 3s. 10s. each for West Craven Moor." This is untrue. There is no such price, and never has been, and with a single exception of "one" share, no person has ever been known to agree to sell shares under 7s. per share since the mine started up to the end of February, 1879; in fact, the prospects have so much improved in this property that the 35 unallotted shares will be taken up by a shareholder at 10s. per share. The shareholders in East and West Craven Moor Mines are accustomed to Mr. Gregory and Mr. Endean's "unsolicited" circulars, and "offers" of shares which they cannot supply; they are too well aware of the "purpose" for which those "gentlemen" persist in offering shares 50 to 100 per cent. below what they can be obtained for—certainly not a very creditable system.

Mr. Gregory states: "I hope soon to have done with Mr. Sharp." Had he not sent his circular in 1877 "unsolicited" to "my clients" by means of a share list, with a view of inducing them to buy Llanrwst at 15s. each, at the same time I was selling at 2s. (I can now sell 109 shares at 15s. each), I never should have troubled myself about him. I found upon enquiry no one knew this Mr. G. S. Gregory, or where he came from, and until then (1877) I had never heard of him, although I had then been in business 24 years, and knew every man of any respectability and standing upon the markets. Within the last few years some twelve or fifteen so-called "firms" came into existence, several of whom had a small room on the fourth floor, which was always locked up. Letters were left with the housekeeper, who knew nothing of the occupants. Share lists of scores of companies were obtained, my clients were inundated with circulars, which were sent off unsolicited by cart loads, and singular to say, all these firms of their circulars advised the Llanrwst Mine as the mining wonder of the age. I have now in my office many of these circulars, but the majority of these so-called "firms" cannot be found. I venture to assert, some of the shareholders in Llanrwst could enforce my statements, especially those who bought at 4s. per share.

Now with respect to the 400 shares. A shareholder in Llanrwst "offered" me an exchange, which I accepted, but part of which he afterwards tried to repudiate, owing to statements made by certain persons, who were not shareholders, and cancelled part of the business, provided he could prove the truth of such statements. He did not do so; therefore, I insisted upon the transaction being carried out.

Mr. Gregory makes another incorrect statement, and when he penned the words he must have known they were untrue. He states, "As some of these 400 shares came through Mr. J. Davidson, who was apparently Mr. Sharp's nominee, he must know more about this advertisement than I do." I thought he had quarrelled with Davidson—hence the advertisement he quoted.

Now, Mr. Gregory would make out that both these Davidsons were one and the same person; he knows to the contrary. Mr. A. Davidson, of 139, Leadenhall-street, E.C., had the Llanrwst shares for sale; they were in his name, as the books of the company prove; but the Mr. "J." Davidson (care of Messrs. R. Jones and Co., 11, Queen Victoria-street, London, E.C.) was a "myth." He had not the West and East Craven Moor shares for sale which he advertised, neither could he be found. Such a system deserves exposure. The Mr. A. Davidson who advertised Llanrwst shares I know. Possibly Mr. Gregory may be intimately acquainted with this Mr. "J." Davidson, who cannot be found either by letter, telegram, or otherwise, but who for a "purpose" advertised shares in East and West Craven Moor, and who could not supply. Facts are stubborn things, and Mr. Gregory in trying to prove me capable and guilty of "trickery" fails in the attempt, and brings himself into jeopardy.

I have written thus fully to prove my assertions are facts and Mr. Gregory's statements are not reliable. My readers can judge for themselves.

G. S. GREGORY, London.

H. GOULD SHARP, London.

N.B.—Since writing the above, I have received from my clients several copies of a long printed letter which Endean and Co. have sent out. It is dated April, 1879, and addressed to the shareholders in Llanrwst and East and West Craven Moor Mines. It contains 12 paragraphs, nearly all of which are untrue; and if any of the shareholders are desirous of an explanation of the "facts," I can afford them every information, which would be satisfactory and truthful.

Mr. Alfred Fisher Endean (now Endean and Co.) is the gentleman who figured in the action "Gilbert against Endean" in the Vice-Chancellor's Court, before Sir Richard Malins, in July, 1877. A copy of the whole proceedings will shortly be published to the shareholders in the above companies.

THE PENSTRUTHAL MINING DISTRICT.—Who can recognise mining enterprise as existing in the Penstruthal district in the palmy days of Treasavean, Old and New Buller, Wheal Beauchamp, Comfort, Trethellan, and Treviskey, with the sloth and inactivity which permeate and cripple this industry at the present time. Treasavean, on each 32s. 10s. share, yielded dividends of 100s. bi-monthly; rarely did a share exchange hands so long as the pioneer points continued their promise of discoveries; and well were the shareholders repaid for their perseverance and unwavering pluck, for each share received in the aggregate over 4000s. in dividends. This mine stands to the east of Penstruthal. What would a more eminent and purely practical miner, Capt. Thomas Teague—the pioneer of Treasavean, Wheal Bassett, Tincroft, North Downs, and other precious concerns—say now, where he permitted to revisit the arena of his former prowess and enterprise—at the simple trafficking in buying and selling shares for settlement on account days, instead of grappling with the veins and laying open the vast though hidden stores of the earth, as practised by him and his successful compeers over the decade 1827 to 1837, that witnessed the creation of that spirit which ushered into existence Carn Brea, Tolgus, North and West Bassett, Crofty, North Roskell, Buller, Levant, Botallack, Far, Phoenix, Lwy, and the Devon Great Consols. Surely the "shades" of such miners as old T. Agate, Lyte, Treviskey, Harvey, Halse, and Treddinick must stand fast at the sight of such apathy and indifference as are now displayed. At Penstruthal the late Mr. Francis Daniel extracted from one vein alone more than half a million sterling of high percentage copper ore, with a profit of 80,000s. in one year. Treasavean from its advanced to 2700s. a share, Bassett from 5s. to 500s. a share, and the surrender of Buller sett rather than work it; yet, subsequently, it was taken up by others, and shares 5s. paid advanced to 1000s. each. Again, shares in Scton, Crofty, and South Frances were relinquished as worthless just previously to success, and yet the shares rapidly rose to 800s., 1000s., and 750s. each, with a preponderance of buyers. —West Briton.

LEAD IN AMERICA.—Of the 162,608,000 lbs. of lead mined in the United States during the year 1878, about 12,000,000 lbs. came to New England, and were made up into lead pipe and sheet lead for use in the six Eastern States. There are two large concerns engaged in the manufacture of lead pipe and sheet lead at this point, and though they by no means furnish all New England with those articles, yet either one of them would be able to do so alone, for the machinery now employed in this branch of manufacture is very ingenious and capable of accomplishing a vast amount

nugget of upwards of 36 ozs., which they sold in Quebec for about \$700. The first deep lead in Canada was discovered in 1863, and eleven years have been spent in carrying on the requisite works and explorations for establishing the continuity, nature, and extent of these deposits, and proving them to be of local origin, confined to well-defined channels, and yielding over a large portion of their extent from \$50,000 to \$100,000 per acre.

New Zealand Kapanga, 3 to 5; the report by last mail will be found in another column. It is considered satisfactory, and to speak well for the mine if properly developed.

Nouveau Monde, 3 to 5; owing to the discoveries of gold in Venezuela on property belonging to this company the shares which for years past have been unobtainable—in fact, never heard of—have come quite into favour. It is reported that over 1500 shares have been changed hands during the last fortnight. The company was formed before the limited liability principle was introduced in England, and was formed in Paris under the French law to secure limited liability. The shares are to be bearer, the holding of the certificate being the only evidence necessary when it is desired to exercise the rights of a shareholder.

St. John del Rey, 255 to 275; the latest telegram from the mines at Morro Velho, received on Tuesday, states that the produce for March was 39,500 ota., of the value of 15,306L, the ley of the ore being 6.5 per ton. At Cuibá 400 tons were stamped, yielding 2 ota. per ton. The payment of the 4 per cent. tax suspended. 2 ota. per ton; the usual monthly report states that during 23 days in March, Javal, 3 to 5; and occasionally, owing to dry seasons, with 20 stamps, they sometimes 1745 tons of ore, and obtained 531 ota. of gold. The remittance was 1125L, and the expenditure 1043L. Chontales, 3 to 5; during February 1118 tons of ore, averaging 3 1/2 dwts. per ton, yielded 183 ota. of gold, worth 484L. The cost was 679L, leaving 185L 18s. loss.

Richmond Consolidated, 3 1/2 to 9 1/2; the usual telegram from the mines at Eureka, Nevada, states that the week's run was \$30,000, from 1090 tons of ore. During the week the refinery produced \$40,000. No manager's report has been received this week. Sierra Buttes, 2 to 2 1/2; the March receipts were \$31,107, and the working expenses \$21,422. Plumas Eureka, 2 1/2 to 3 1/2; the March receipts were \$54,893, and the working expenses \$22,157.

In Hydraulic or Gold Washing Companies shares there has been very little doing, but it is anticipated that ere long there will be a stir in them, as an effort is about to be made to place some gravel properties on the French market. The transactions of the Crédit Mobilier in foisting the Old Telegraph Mine (Société des Mines de Bingham) upon French capitalists have been fully referred to both in Paris and in London, but, unfortunately, the exposure was too late to save all the bona fide applicants for shares, although many profited by the warnings given even before accurate details were obtainable. The consequence was that by a great deal of market manipulation a nominal float was secured, so that the bona fide investors were still further mulct having to choose between selling at the low prices to which the shares had fallen or continuing to hold a worthless security. The chance which existed for establishing an active mining market at Paris was entirely lost through such a property at such a price being offered, and the attempt is now to be made to introduce gravel properties to the Frenchmen, although there can be no doubt that should gravel properties be obtained the results will be quite disastrous. Not that gravel property (situated in any part of the New World) has ever been introduced into Europe—London, Paris, or the Hague—which has been remunerative to those engaged in them. There is not one property of this class now on the market which is at present earning profits, or likely to earn profits. Of the few which have ever figured in the list of dividend paying concerns they are now only "hoping for better results." Birdseye Creek (total capital 60,000L), shares, on which 4L each was paid, has never returned more than 14s. in dividends, and has paid nothing since 1874; Cedar Creek (capital about 170,000L) has only paid 5s. on each share, and has paid nothing since 1873; and Gold Run, with paid 30,000 shares of 1L each, has never paid but 2s. 4d. in dividends, and has paid 30,000 shares of 1873. No other gravel mines, and there are many of them on the London market, are recollected ever to have paid a dividend. Surely this is not the class of property which should be introduced on the Paris market if it be desired (and nothing can be more desirable) to induce French capitalists to take greater interest in mining industry.

Blue Tent, 2 to 2 1/2; a telegram received during the week announces a further partial clean up, with a return of \$3200. The heavy rains have broken down the bank of gravel, thus retarding a thorough clean up, but this will tell out the bank of gravel of the company at a later date, as it gives a large body of sludgy ready for washing without further expense. Placerville, 2 1/2 to 2 3/4; crushing has been commenced here, and the agent, writing under date of March 28, says that when crushing is started it will be a long time before it stops. The prospects are exceedingly favourable, the quartz turning out rich, and the lode and the level fully 6 ft. wide. The shaft is now down 475 ft., and good progress is being made.

Hultfall, 2 to 2 1/2; advices from the mine, dated April 7, are to the effect that the weather has set in warm, and that the ice and snow were rapidly disappearing. The agent states that in May he will be able to raise upwards of 40 tons of rich ore per day. A sufficient stock of timber has been secured for mining purposes for the year. The mine generally is described as looking extremely well, and the dressing department will be in a perfect condition. A large portion of the ore now being raised is, it is said, in a condition to be sent forward to this country without dressing.

Lead Mine shares have been somewhat less enquired for, and to effect the few transactions which have taken place it has in most instances been necessary to accept slightly lower prices: Van, 1 1/4 to 2 1/4; the 120 is reported to be looking better; other points without change.

Mineral Corporation of Great Britain, 10 to 11; it is rumoured that taking advantage of the present depressed state of the metal trades the executive have secured additional and very promising property, which will add greatly to the resources of the enterprise. The reports, however, contain no notice of any such purchases, so that for the present the rumour must be taken for what it is worth. There can be no doubt that when capital is at command the purchase of property in times of depression a larger percentage upon outlay is secured than would otherwise be possible. The manager reports that considering the large piece of mineral ground driven through in No. 3 at Hafna he would recommend the driving of No. 4 with all speed, which he feels certain will open up a splendid mine. Great d'Ersby and Bryn Canadon offer nothing worthy of special notice.

Frongoch, 2 to 2 1/2; no fresh news of importance this week, all going on well. Grogwinion, 2 1/2 to 3 1/2; 100 tons of lead have been sold, at 9L 5s. per ton. Frogspe still improving. Caron, 1 1/2 to 2 1/2; a parcel of 30 tons of lead has been sampled for sale next week. Mine looking very well, prospects excellent. Red Rock, 1 1/2 to 2 1/2; a parcel of 40 tons of lead is to be sold on Wednesday next. The newly discovered ore ground is opening out profitably. Wye Valley, 1 1/2 to 1 3/4; fair progress continues to be made in all departments. West Wye Valley, 1 1/2 to 1 3/4; the sinking of shaft is going on well and prospects improving. Mawson, 1 1/2 to 2; another parcel of lead has been sold, which will leave a fair profit, and further sales will follow in due course. The mine continues to look well, the winze below the 22 going down in a very nice course of lead ore, and the end of the level still improving. Hartington Moor, 1 1/2 to 2; Crosswood, 1 1/2 to 2; South Cwmystwith, 3 to 4; the reconstruction will shortly be accomplished. Pateley Bridge: the lake vein, in the 30 east maintains its value, and is looking very promising for an improvement. The new machinery is being rapidly put up, and will ere long be at work.

Subjoined are the closing quotations:—Asheton, 3 to 4; Carn Brea, 30 to 32; Devon Consols, 2 1/2 to 3; Dolcoath, 28 to 30; East Caradon, 3 to 4; East Van, 1 1/2 to 2 1/2; Gwernymynydd, 4 to 4 1/2; Glenroy, 3 to 4; Glyn, 3 to 4; Great Laxey, 15 to 16; Hington Down, 3 to 3 1/2; Leadhills, 2 to 2 1/2; Marke Valley, 3 to 4; Parys Mountain, 3 to 3 1/2; Pateley Bridge, 1 to 1 1/2; Penstruthal, 1-16th to 3-16ths; Roman Gravel, 3 to 4; Rookhope, 3 to 4; Tankerville, 3 to 4; Tincroft, 10 1/2 to 11; Van, 19 1/2 to 20 1/2; West Asheton, 1 1/2 to 1 3/4; West Bassett, 4 1/2 to 5 1/2; West Chiverton, 3 to 3 1/2; Wheel Crebor, 3 to 4; Wheel Grenville, 3 1/2 to 4; Almada and Tiritio, 18-16ths to 5-16ths; Birdseye Creek, 3 to 4; Blue Tent, 2 to 2 1/2; Canada Gold, 2; Cape Copper, 2 1/2 to 2 3/4; Chontales, 3 to 4; Colorado United, 1 1/2 to 2 1/2; Don Pedro, 11-16ths to 13-16ths; Eberhardt and Aurora, 4 to 4 1/2; Emma, 3 to 4; Exchequer, 3 to 4; Flagstaff, 3 to 4; Frontino and Bolivia, 2 1/2 to 2 3/4; Hultfall, 2 to 2 1/2; L.X.L., 1-16th to 3-16ths; Javal, 3-16ths to 5-16ths; Kapanga, 3 to 4; Last Chance, 3 to 4; New Quebrada, 1 1/2 to 2 1/2; Plumas Eureka, 2 1/2 to 3; Pustarna, 1-16th to 3-16ths; Placerville, 2 1/2 to 2 3/4; Port Phillip, 3 to 4; Port Phillips, 3 to 4; Richmond Consolidated, 8 1/2 to 9 1/2; St. John del Rey, 255 to 275; San Pedro, 1s. to 2s.; Sierra Buttes, 2 to 2 1/2; United Mexican, 3 1/2 to 4.

At Truro Ticketing, on Thursday, 2535 tons of copper ore were sold, realising 7247L 8s. 6d. The particulars of the sale were—Average standard, 90L 7s.; average produce, 6 1/2; average price per ton, 2L 17s.; quantity of fine copper, 157 tons 8 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Mar. 20 2379	85	7 6	7 1/2	23 7 0	9s. 5d.	247 2 0
April 3 1140	84	8 0	7 1/2	23 7 0	6 1/2	47 11 0
17 2335	90	7 0	6 1/2	21 7 0	9 3	45 2 0

Compared with the last sale, the standard has remained stationary.

REOPENING OF CORNISH MINES.—An important meeting was held at St. Just on Friday afternoon, Mr. Richard Boyns presiding, the object of which was to consider the reworking of the St. Just Amalgamated Mines. It was determined to rework the mines under the name of St. Just United, with a capital of 4000L, in 200 shares of 20L each. This capital will be sufficient to fork the mine and prepare it for future working. Persons competent to express an opinion speak most favourably of the undertaking, and Captain Bennetts believes the mines will prove a valuable property.

RHYDALUN.—This is one of the few mines in the Mold district making profits pending the completion of the Halkyn Drainage Tunnel. The lode has not been discovered many years, and lies in virgin ground, where it is frequently found worth from 5 to 6 tons of lead ore per fathom. The mine has made rapid strides within the past 12 months, its returns having increased from 15 tons to 50 tons monthly. The reserves are stated to be enormous, and if

desired 100 tons monthly could be sent to market. It is considered to be a very valuable property.

LEAD ERA.—This mine is attracting attention as one of the best progressive concerns of the day. We understand that Capt. Arthur Waters has recently inspected it for a private party, and that two gentlemen have in consequence of his report joined the board this week.

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Kangaroo Tin Works, Sydney, December, 1878.

WALLAROO COPPER.

MESSRS. JAMES AND SHAKESPEARE beg to give notice that their NEXT SALE will take place on Tuesday, the 22nd inst., at Two P.M., at the Baltic Sale Room, Threadneedle-street, when they will OFFER about ONE THOUSAND AND SEVENTY TONS WALLAROO COPPER, consisting of ONE THOUSAND AND SIXTY-ONE TONS in CAKES, and NINE TONS in INGOTS.

Catalogues may be obtained at their offices, 10, Austinfriars, E.C., London, and 5, Castle-street, Liverpool; also of Mr. DUNLEY DOCKER, 33, Cannon-street, Birmingham.

BURRA BURRA COPPER.

MESSRS. FRY, JAMES, AND CO. beg to announce that their NEXT PUBLIC SALE of Burra Burra Copper will take place at the BALTIC SALE ROOM, at Two o'clock, on TUESDAY, 22nd inst., when they will OFFER about TWO HUNDRED TONS in CAKES and INGOTS.

Catalogues of Messrs. FRY, JAMES, and Co., Gresham House, Old Broad-street.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF THOMAS CADMAN, Esq.,

H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, will be HELD on the 7th, 8th, and 9th days of July next, and CANDIDATES INTENDING TO PRESENT THEMSELVES at such Examination must, on or before the 24th day of June, notify such intention to the Secretary of the Board of the above-mentioned District, from whom all information as to particulars can be obtained. By order of the Board,

N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

Mr. E. JACKSON,

Associate of the Royal School of Mines,

ANALYST AND ASSAYER.

Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores. ASSAYING TAUGHT.

106, QUEEN VICTORIA STREET, LONDON, E.C.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
April 5	Monydd Gorddu	15	£11 12 6	Panther Lead Co.
15	Foxdale	110	10 5 6	Par Smelting Works.
16	Great Dyflid	45	9 9 6	Sheldon, Bush, and Co.
—	Grogwinion	100	9 5 0	Walker, Parker, and Co.
17	Tankerville	80	9 6 0	Nevill, Druce, and Co.
—	ditto	20	8 5 0	Sheldon, Bush, and Co.
—	East Roman Gravel	30	9 5 0	Nevill, Druce, and Co.

AUSTRALIAN TIN ORE SOLD IN LONDON.

Date.	Tons.	Price per ton.	Purchasers.
April 16	2 1/2	£35 10 0	Daubuz and Co.

TIN BARILLA SOLD IN LIVERPOOL.

Date.	Tons.	Price per ton.	Purchasers.
April 16	7 1/2	£28 5 0	Thos. Boitho and Sons.
—	—	28 5 0	Williams, Harvey, and Co.
—	—	28 5 0	Calewick Smelting Co.

PERUVIAN TIN ORE SOLD IN LIVERPOOL.

Date.	Tons.	Price per ton.	Purchasers.
April 16	3 1/2	£28 5 0	Thos. Boitho and Sons.
—	3 1/2	28 5 0	Williams, Harvey, and Co.

COPPER ORES.

Sampled April 2, and sold at the Royal Hotel, Truro, April 17.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols	91	£11 0	South Caradon	40	£2 15 6
ditto	89	1 8 6	Marke Valley	61	3 13 6
ditto	84	1 17 0	ditto	68	3 4 0
ditto	81	1 14 6	ditto	68	3 5 6
ditto	80	1 10 0	ditto	60	3 7 0
ditto	79	1 4 6	ditto	40	2 11 6
ditto	77	1 3 0	ditto	23	3 9 6
ditto	74	1 8 0	Gawton	76	0 12 6
ditto	61	1 5 0	ditto	69	1 9 0
ditto	43	5 16 0	ditto	59	0 10 0
ditto	40	5 6 6	ditto	20	2 5 6
ditto	38	5 19 0	Glasgow Caradon	67	3 12 6
ditto	23	5 9 6	ditto	60	3 12 6
ditto	21	6 6 0	ditto	87	2 19 6
South Caradon	100	0 14 6	Phoenix	55	3 17 6
ditto	78	3 2 6	ditto	50	3 10 0
ditto	76	2 19 6	ditto	30	10 17 6
ditto	74	3 1 6	Hington Down	121	2 1 6
ditto	72	4 8 6	Wheel Crebor	67	2 7 0
ditto	61	8 17 6	ditto	63	3 12 0
ditto	49	8 19 6	Bedford United	61	3 10 6

TOTAL PRODUCE.

Mines.	Tons.	Amount.
Devon Great Con.	869	£1895 2 6
South Caradon	540	2091 18 0
Marke Valley	285	933 18 0
Gawton	224	222 11 0
Glasgow Caradon	190	661 14 0

Average standard	£ 90 7 0	Average produce	£ 217 0
Quantity of ore <td>2535</td> <td>Quantity of fine copper</td> <td>157 tons 8 cwt.</td>	2535	Quantity of fine copper	157 tons 8 cwt.
Amount of money	£7247 8 6		
LAST SALE.—Average standard	£84 8 0	Average produce	7 1/2
Standard of corresponding sale last month	£ 85 7 6	Produce	7 1/2

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	685 5-6	£1832 12 0
Grenfell and Sons	458 1/2	1124 0 6
Nevill, Druce, and Co.	557 1/2	1936 11 7
Williams, Foster, and Co.	606 3/4	1391 1 4
Mason and Elkington	326 1/2	922 3 1
Total	2535	£7247 8 6

NO SALE on Thursday next, April 24.

Copper ores for sale at Tabb's Hotel, Redruth, on Thursday week—Mines and parcels:—Mellancor 610—East Pool 267—West Tolgus 226—West Seton 122—Botalack 105—South Crofty 45—Pope's Ore 27—North Trekerby 26—Penstruthal 15—William's Precipitate 1.—Total, 1444 tons.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers being sent out of print, we recommend that the Journal should be sent on receipt; it then forms an accumulating useful work of reference.

MINING JOURNAL.—Bound volumes wanted of the Journal for the years 1870, 1871, 1872, and 1876. Any subscriber having them to dispose of will oblige by stating price. Address, "R. C. O." Mining Journal Office, 26 Fleet street.

Received,—"H. C. S." (New York)—"G. F."—"C. W. H."—"D. C. D."—"Shareholder" (Wheat Basset)—"Constant Reader" (Galway)—"J. B." (Paris)—"E. E." Next week—"J. G. G." (Cardiganshire): The letter is not adapted for publication; however, merited some of the censure may be, its general tone is altogether too personal—"Shareholder" (Monydd Gorddu)—"Statist": We could not devote space for such a lengthy document. It should be printed as a pamphlet—"Reclprocity."

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, APRIL 19, 1879.

THE COAL QUESTION.

The coal question has been so freely discussed for several years past by many eminent authorities that any new light which can be thrown upon it cannot fail to be of interest. We, therefore, give the *resumé* of a lecture delivered a few days ago at Barnsley, by Professor MARSHALL, of Leeds. The lecturer commenced by stating that at the commencement of the present century the people knew of the utility of coal, but there was little evidence to show that they ever considered that at some future time the coal supply would be exhausted. In the Staffordshire coal field the splendid Ten-yard seam was so recklessly worked that at least two-thirds of it was lost in mining. At the Northern collieries, too, great waste took place, and large quantities of the coal left after screening was burned at the pit's mouth, because the people did not care to find any use for it, whilst screened coal on its way to London was broken up so that when it reached port it was generally about the size it would have been if it had been put on board unscreened. Sir W. ARMSTRONG, in his presidential address to the British Association at Newcastle in 1863, directed attention to the alarming growth of the output of coal. He calculated that assuming an arithmetical increase in output similar to that of the average of the eight preceding years, our total stores to a depth of 4000 ft. would be exhausted in 212 years. Two years afterwards Professor JEVONS, in his work, showed that the question was not an arithmetical one but a geometrical one, and that, consequently, on the assumption of its uninterrupted continuance, our coal would be exhausted in 110 years from 1865. The limitation of the workable beds of coal was made on scientific principles—on account of the increase of temperature as we descended into the earth. The temperature of the earth was uniformly 50° at the depth of 50 ft., on the average, from the surface, and the temperature increased 1° for every 50 or 60 ft. of depth. Blood heat (98°) would thus be reached at a depth of 3000 ft., and then, allowing for improved ventilation, a further increase to 4000 ft. was obtained. This calculation had been disputed by some, who said that the ratio of increase in temperature was a diminishing one, but whilst it was likely under special circumstances to get down to 4000 ft. or more, yet the expense of working at that great depth would be so great that it was very improbable that many of the seams would be worked up to the limit. Therefore, we might say that a very liberal calculation indeed had been made. No trace of coal had yet been found south of a line from the Thames to the mouth of the Severn, although a boring in the Weald had been carried down to a depth of 1762 ft. They must expect that for some time the rate of consumption would go on increasing, and then after a time it would gradually decrease, until it stopped at some particular point, which might be far or which might be near. Those who had practical experience of coal raising would know that there is a great deal of coal that was never brought to the surface, and after making all allowances it was shown that the amount of coal really wasted was from 10 to 40 per cent. There was a great deal of grumbling about this waste of coal, but it would be unfair and impossible to expect a lessee to get all the seams, regardless of cost, at his own expense. With regard to coal they were in the position of a new country, and must leave their coal lessee free to get coal in the cheapest way possible. They had been told that improvements were being made in the method of working iron, and that shortly there would be a great saving in the amount of coal used. But the fact was the more they saved the more they burnt. Every economy which had taken place had resulted not in a reduction but in an increase in the amount of coal used and in the iron produced, and it was but reasonable to suppose that it would be the same in the future.

Improvements were being made in steam-engines, but the most efficient were not the most favoured, for, as in the case of the coal lessee, a cheap but wasteful engine was generally preferred to an efficient but expensive one. The steam navy had increased fivefold between 1850 and 1876, and thus trade with foreign countries had greatly developed. About seven or eight years ago, at the time of the high price of coal, a good deal was said about the wasteful way in which coal was burnt, and economical grates were introduced, but he did not suppose that many persons used them, for the same reason that a manufacturer preferred a wasteful engine which did not sink so much money rather than an expensive one which saved coal; but he did not suppose that much economy would be exercised in the domestic consumption until coal was scarcer, and prices were permanently higher. Another point which had been much talked about was electricity. There was a great scare a few months ago amongst gas companies because it was believed that electricity would shortly supersede gas. He did not believe that that would be just yet, because to produce electricity they would have to use steam engines, and if ever they did adopt electricity it would not be as a substitute for coal, but as another means for using it. When towns were lighted with oil much less money was spent than at present when gas was used, and so it might reasonably be expected with electricity. There was no likelihood of economy in the use of coal until the cost had increased to such an extent that manufacturers would begin to save. No restriction could be put upon manufacturers to compel them to use the most economical engines, and they must be left to conduct their trade in the cheapest way to themselves. There had been discussions at various times as to how far they ought to allow the export of coal to go on in the way it had done, but it was not quite on the same level as the ordinary free trade questions. The countries which took most coal away from England were France, Germany, Sweden and Norway, Italy, and Russia. To these countries we sent five-sixths of our exported coal, and received in imports only about one-tenth of the value of the coal. These countries were great coal-raising countries themselves, but the coal fields of Great Britain were so advantageously situated for the exportation of coal that it was found cheaper to import coal rather than to work their own. Enquiry did not show that the coal thus imported was used for the great industries of those countries, but that it was used in the villages all round the coast of Europe. The growth of canals and railways had also a remarkable effect in developing the inland coal fields of Great Britain. Under present conditions this country had a great pull over every other country in Europe, and if a duty was put upon the exportation of coal, masters would find it still more difficult to make their pits pay, and ultimately the whole trade would decline. In a year of bad trade there was generally a marked increase in the amount of coal exported consequent upon the coal raisers being at liberty to find markets in other countries which they were not able to do before the bad trade had affected them. Sooner or later the conditions on which we raised our coal, which made us the great manufacturing country we were, would be made worse, and the conditions on which we competed with other countries would be made more onerous.

The country which would then take up most of the running would be America, whose coal fields appear to be really boundless. Sooner or later the condition of America would enable coalowners there to undersell us, and as there would be a diminution in our coal produce and iron manufacture there would consequently be a corresponding increase in the output of coal in the United States, Germany, Australia, and New Zealand. There were, however, several things that would tend to postpone that time—such as holding fast to the principles of free trade and good government, and improving the skill of our workmen. Although our prosperity might not be so rapid a growth as it has been during the last 100 years, still, after the iron manufactures have left us, there was nothing to make us suppose that with our manufacture of textile fabrics and our carrying trade we might not enjoy a quiet prosperity similar to that enjoyed by Holland. There were some things which we would scarcely like to see continued, such as the drinking custom of the country. There had been an increase in the material resources of the country, but the increase of education had not kept pace with it. In the time to come we should be able to spend our money more wisely when we did not get it quite so fast, and then there was not so much smoke about we should be better judges of colour, and be able to increase the quality of the goods we produced, so as to make up for the decrease in the quantity.

QUEENSLAND COAL RESOURCES.

Although coal is believed to be extensively diffused throughout Queensland it has yet to take its place among the leading products of that colony, being at present worked to only a comparatively small extent. Coal has been found on the banks of the Brisbane and the Brower rivers, in other parts of the West Moreton district, and on the Darling Downs. The coal has been found to compare favourably with New South Wales coal, and the hard oil coal of the Darling Downs is described as being capable of producing a large percentage of illuminating oil and paraffin. It is estimated that the coal beds of Queensland underlie a surface of nearly 24,000 square miles, yet from 1870 to 1874 only 144,422 tons were raised. It may appear strange that so little effort was made to turn to account such vast coal resources, but it must be remembered that population is still very scantily scattered about Queensland, while the colony is essentially a pastoral and agricultural one. Moreover, Queensland is not overendowed at present with the capital required for carrying on coal mining operations upon a considerable scale. However, the extraction of Queensland coal would appear to be gradually increasing. Thus while in the five years ending with 1874 inclusive the extraction averaged scarcely 29,000 tons per annum it amounted in 1876 to 50,627 tons. The value of this coal was computed at 26,470*l.*, or a little over 10*s.* per ton—a price which certainly does not appear calculated to stimulate coal mining industry in the colony to any important extent. In fact, the absence of an immediate demand for Queensland coal checks the production of it at present almost, if not quite, as much as the absence of means of extraction.

But we must not be hard upon Queensland just because the colonists do not turn their coal resources to much account at present. Queensland only dates as an independent colony from 1859. Previous to that year it was vaguely known as the Moreton Bay district of New South Wales, but the Government over which the late Earl of DERBY was presiding in 1859 sliced an enormous area of country off unwieldy New South Wales, and gave it the by no means unpleasing designation of Queensland. It was thought, probably, that the erection of Queensland into an independent settlement would advance its colonisation, as it would be brought more immediately under the supervision of a governor and a council of ministers, and if this idea were entertained it has probably been justified by the social and economic results which have been attained by the Queenslanders during the last 20 years. In support of this observation we need state only two facts—that Queensland has contrived to build up a white English-speaking population of 200,000, while the revenue of the colony last year approached 1,600,000*l.*

Copper is found in Queensland as well as coal, but, as with coal, so with copper it cannot be said to be worked at present to any important extent. The richest copper mines are at Clermont and Mount Perry. The production of copper in Queensland in 1876 was 9334 tons, the value being computed at 93,100*l.*; of this production 2105 tons were smelted, the value being estimated at 147,000*l.* Gold has been worked with more vigour in Queensland than either copper or coal, and there are at present more than 20 gold fields in the colony, the most important, probably, being that of Gympie, about 130 miles from Brisbane. The goldbearing quartz at Gympie has been found to be rich and profitable. The total production of gold in Queensland in 1877 was 373,266 ozs., of the estimated value of 1,306,431*l.* The working of gold in Queensland has, no doubt, contributed materially to its rapid progress as a colony, as it has provided the Queenslanders to some extent with capital.

UNDERGROUND HAULAGE IN MINES.

In the present depression of mining generally anything tending to economise labour and cost becomes a matter of great importance, and as far as relates to mining underground haulage is a subject to which too great attention cannot be paid. The great objects desired are speed, with as small an amount of labour and expense as can be shown to be practicable, and of late there have been some improvements in the direction indicated, but we believe not so widely known as they ought to be. Those persons having the management of mines cannot pay too much attention to the advantages that are to be obtained from an efficient knowledge of the various methods of hooking on and detaching the tubs or corfs kept going in the workings of a mine for the purpose of bringing the material to the surface. One of the oldest known methods of transporting minerals from the bottom to the top of a mine was that in force at the Scotch collieries up to the passing of Lord ASHLEY's Act, in 1843, which prohibited the employment of women in mines and of boys under ten years of age. The coal was carried on the backs of women and children as well as men, in bags or baskets. The women who carried full loads provided themselves with wicker creels, or baskets, which were fitted to the back and steadied by a strap round the forehead. After this came the sledge, which consisted of a wooden box placed on a longitudinal frame, shod with iron. But now we have tramways over which the minerals are taken either by horses, ponies, or other power. The endless wire-rope has been a great success wherever it has been introduced. It is a simple system of attaching the corfs or tubs to the rope at any point without stopping the engine. The subject of mechanical haulage a few years ago was discussed by the North of England Institute of Mining Engineers, and the various systems were incorporated in a report. The conclusion came to was that in nearly every case planes worked at a slow speed by endless ropes running on the top of tubs, were the most economical as regards the wear and tear of the ropes and tubs. Since then several contrivances in connection with the endless rope have been made known and adopted. Where the road is level a "dog" has been fitted into a socket at the end of the tub, which carried and clipped the rope.

At a recent meeting of the Midland Institute of Mining Engineers the subject of attaching the tubs to the rope was introduced in a brief paper by one of the members, Mr. J. W. WHITE. He introduced a method in the case where heavy gradients have to be met, a different contrivance to that just noticed, the "dog" becomes necessary, as the strain upon the end of the tub would be too great, and the tubs liable to "up-end." To effect this Mr. WHITE uses a simple clamp, by means of which a lad could hang on or loose-off. It attached the tubs as firmly to the rope as when the various screw clamps were employed. The strain came upon the drawbar, and not on the top of the tubs, so that there was no liability to up-end or damage the tub, whilst any gradient could be met. The clamp, we are told, is now working at several collieries where screw clamps were formerly used, and is found to be a great improvement. There was no liability to slip, and it could be easily made and repaired by the smith at the colliery. The clamp must be kept clear of the rollers. At the Wharfedale Silketone we are told by Mr. Embleton a similar plan had been adopted, and answered very

well. The rope was placed under the corfs, and in running any of the latter from the side into the main road the road was so level that the corfs ran over the rope, so that the work of the engine was not interfered with, the rope being constantly moving. The apparatus was like a pair of blacksmith's tongs, and the two forks, which projected upwards, were kept tight by a piece of iron. A chain was attached to the apparatus, and no difficulty was found in attaching the corfs, or proceeding in any direction whatever. A system rather similar it appears was in operation some years ago at Pelton Fell, in the North of England. Thirty corfs were brought together, and a lad occupied a seat on the front one, and when going down a "jenny" he would undo the screw, and let the "sets" run down at the risk of his own life. When he came to a level he would again attach the apparatus, and the system worked uphill as well downhill. By Mr. WHITE's contrivance, however, a train could be sent uphill and then downhill without the apparatus being unattached, and in going round a very sharp turning an arrangement can easily be made at the side of the road for doing so, but there is no difficulty whatever in carrying out the system. In conclusion, we may say that underground haulage is a subject of great importance in connection with mining economy, and it is well that all improvements in connection with it should be generally known.

TASMANIAN TIN.

The reports of the various Tasmanian Tin Companies which close their accounts to the end of the year are of a most encouraging character; it appears that with ingot tin at 60*l.* per ton they can produce the metal at cent. per cent. profit, or, in other words, they can produce for 18,000*l.* tin which at the price mentioned is saleable for 43,000*l.*, whilst, as to quantity, the Mount Bischoff Company alone can produce, and actually are producing, 1100 tons of fine tin in the half-year, and several other concerns are quite as profitably employed. The importance of these figures will be better appreciated when it is stated that according to the last published official returns—those for 1877 (those for 1878 will probably show a slight reduction)—the yield of the whole of the tin mines in the United Kingdom for the year was but 9500 tons.

The Mount Bischoff Company held their half-yearly meeting at Launceston (Tasmania) on Jan. 31 (Mr. Alexander Webster in the chair) when their accounts were presented, showing that they had raised 43,210*l.* worth of tin ore, to do which they had expended in salaries and wages 10,165*l.* 7*s.* 5*d.*; stores, 1135*l.* 4*s.* 4*d.*; and other charges (including 100*l.* for library fund), 844*l.* 19*s.* 3*d.*, leaving a profit on the six months' working of 25,064*l.* 9*s.*, which, with 16,474*l.* 18*s.* 1*d.* brought forward from the previous half-year, gave an available balance of 41,539*l.* 7*s.* 1*d.* Of this 24,000*l.* was declared as dividend, 3462*l.* 4*s.* 2*d.* was set aside for plant, a bad debt of 31*l.* 13*s.* 5*d.* was written off, and 14,045*l.* 9*s.* 6*d.* was carried forward. The Chairman stated that during the six months (to Dec. 31) 1490 tons of ore had been raised, against 1339 for the corresponding period of the previous year, showing a considerable increase. During the first half of 1878 702 tons odd had been raised, so that the yield had been nearly doubled for the last six months, and as soon as the mining manager had completed the battery and machinery for dressing the tailings the yield would be considerably increased, with but little increase in cost. The balance-sheet showed a considerable sum to credit even after the payment of a large sum in dividends, and the mining manager said the mine looked as well as ever. The low price of tin was a matter of regret, but the labour-saving appliances now being used would counteract that to a great extent by reducing the cost of production, and a letter he had received from a well-known metal broker stated it was his opinion that tin would range from 60*l.* to 65*l.* a ton, and that it was not likely to go below 60*l.*, and then there would be a steadier market than they had had for some time past. The tin ore produced yields 67 per cent. of fine (about 150 tons has yielded 69 to 71 per cent.), and is valued at 29*l.* per ton at the mine. The company smelt their own ore, and thus realise the maximum of profit.

The Native Youth, the Main Creek, the Surprise, and the Try Again Tin Mining Companies' meetings were convened, but lapsed for want of a quorum, in each case the shareholders apparently being contented to receive their dividends. The Native Youth accounts alone have yet been received; this appears to be a small concern, which raised only 405*l.* 16*s.* 9*d.* worth of tin, out of which, after payment of costs and charges, they declared 1500*l.* as dividend, and carried forward 141*l.* 19*s.* 8*d.* The prospects of the Tasmanian Tin Mines certainly appear to be altogether excellent.

GOLD MINING IN TASMANIA.

Although the gold mining operations have not yet yielded brilliant results, operations are being energetically carried on, and the prospects of success are considered to be good. Daily's United Gold Mining Company held its first half-yearly meeting at Launceston (Tasmania) on Jan. 31. The report of the manager (Mr. J. G. Payne) stated that the prospects obtained by dish washing showed 2*l.* 4*s.* to the load. Since then he had sunk another prospecting shaft on the shallow portion and bottom at 20 ft. with 1 ft. of wash, prospects about the same, and a good deal of water. They have purchased and erected engine and pumping gear, and are now boring on Hart's lease through very favourable looking country. The Chairman stated that Mr. Payne had shown him a nice piece of fairly solid and not bad-looking quartz, with two good sized pieces and several specks of gold in it, which was broken from a large boulder met with in the alluvial shaft. The mining manager said it had not travelled far, and there was a great deal of such loose boulders in the other alluvial claims nearer the Cabbage Tree Hill, which had been carried down from some reef. In sinking the main shaft the contractors had cut a small leader carrying gold, and then the water came in. They told Mr. Cusley that for some feet they were within a couple of feet of a body of stone, and could get gold from the casing.

At the Three Star Gold Mining Company meeting, held the same day, the directors' report stated that the operations at the mine had been commenced and carried out for some time under the management of Mr. McNeil, but he having resigned on Oct. 3, Mr. M. Trezise had been appointed consulting manager, since which the contracts had been carried out under his supervision. In view of ultimate requirements for tramway and machinery site, arrangements have been made with Mr. Douglas for the use of one chain in width of surface of his tramway grant, which intersects one of the company's leases; also for mining under the whole of the tramway ground for a specified distance upon a royalty of all gold obtained, a small piece of ground between the tramway and Fairthorne's sections being available. The directors were of opinion that the property was a valuable one, and well worthy a further outlay, and although unable to report any discovery of value they were still hopeful of ultimate success.

At the Southern Cross Gold Mining Company meeting the preliminary operations which had been carried on were also reported on. Mr. Douglas stated that at the previous meeting he had recommended the appointment of a new mining manager, and he still thought this should be done. The mine was represented to be a valuable one, and yet returns had not come up to expectations, and he quoted from the report in support of this. The property was a good one, and yet no good appeared to be done with it, and he, therefore, thought it desirable to make a change in the mining management. He moved that the directors be requested to obtain a new mining manager.

COAL MINING IN NOVA SCOTIA.—At the forthcoming meeting of the General Mining Association the accounts to be presented will show a profit on the year's operations of 5531*l.* 12*s.* 2*d.*, making, with the amount brought forward, an available balance of 6502*l.* 5*s.* 2*d.* Out of this a dividend of 4*s.* per share will be declared, and 500*l.* added to the reserve fund, leaving 258*l.* 9*s.* 2*d.* to carry forward. Although the continued depression in the coal trade and the severe competition from the neighbouring collieries necessitated a considerable reduction in the selling price of the coal, both at the

Sydney and Ligan Mines (in fact, prices were last season lower than has ever been known during the working of the mines by the Association), the directors are glad to say that the increased sales at Sydney Mines, coupled with a material reduction in the cost of production, have enabled that colliery to make a profit on the year's working. The manager's report shows that the collieries are in good working order, and the plant maintained in an efficient state.

NORTHAMPTONSHIRE IRON.—Owing to the recent discoveries of the method of treating the Cleveland ores for steel, as might have been anticipated, attention has been drawn to the cheap ores of Northamptonshire, and it is asserted that the elimination of the phosphorus is not more difficult from the ores of this county than from those of Cleveland. Indeed the same process is applicable to both. As the Northampton ore is some 30 per cent. cheaper than that of Cleveland in comparison with its yield of iron, there seems to be strong grounds for the opinion held that this district will be the one most beneficially affected by the recent discoveries. At any rate, it is stated that it is intended to commence operations at once for the manufacture of steel from Northampton ore.

ELECTRIC LIGHTING.—A general exhibition of the various machines, lamps, and other apparatus connected with electric lighting is to be held in the Albert Hall, accompanied at its opening by a lecture illustrative of the general principles of electric illumination, as well as of the particular systems of lighting under exhibition. The Prince of Wales, who is President of the Royal Albert Hall Corporation, has signified his intention of being present at the inaugural lecture, which will be delivered by Mr. W. H. Preece, M. Inst. C.E., Electrician to Her Majesty's Post Office. The representatives of most of the electric light systems will be represented at the exhibition, such as the Siemens, Gramme, Loutin, Wilde, Jablockhoff, Rapieff, Wallace Farmer, and others. It has been arranged that the inaugural lecture shall be held on Wednesday evening, May 7, and that the exhibition shall remain open until the end of the week.

GOVERNMENT MINE INSPECTORS.—Messrs. Arthur Robert Sawyer and Ethel Trehanne Rees have been appointed by the Home Secretary to be Inspectors of coal and certain other mines under "The Coal Mines Regulation Act, 1872."

NEW ZEALAND.—Mr. Thos. James, late manager of the Caledonian Mine, has been appointed underwriter to the Mining Inspector. His predecessor, Mr. Ivey, has started mining at Tapu Creek.

HALKYN DRAINAGE SCHEME AND THE FLINTSHIRE MINES.

The works in connection with the draining, by means of deep tunnels, one of the richest and most extensive pieces of mineral ground ever discovered in the kingdom is proceeding rapidly. The area drained comprises nearly 7500 acres, and includes such celebrated mines as the old Pant-y-go (worked by the first Marquis of Westminster, and returned him several millions in profits), the present Pant-y-go or deep level, Rhosmor, Great Hendre, North Hendre (now wrought above water-level), the Vron Bryn, Rhyd-wynwyn, Bryn Celyn, Llyn-y-Pandy, Rhydalun (new lode, now wrought above water-level), &c. The royalties which the Halkyn drainage is empowered to levy from every occupier of a mine drained by the company's works are in No. 1 area 2s. 10s. per ton for lead ore, and No. 2 area 1s. 10s. per ton. In connection with the subject of profits, the company will enjoy a special advantage over most properties, as when once the district is drained its annual expenditure will be trifling; no engines will be required, nor fresh works executed; and as the Duke of Westminster is chairman and also the largest shareholder, he will therefore see that the affairs of the company are properly managed. From the returns of lead in No. 1 area, calculating on a scale of 300 tons only per month (and the lodes in Rhydalun sett have returned over that monthly up to the time that water interfered with their progress) the company should be receiving almost immediately over 20 per cent. per annum on its capital. The present rate of driving the tunnel by the use of Colonel Beaumont's celebrated rock-drills is about 80 yards a month, and very shortly some of the richest mines in this celebrated district will be drained. Indeed, the draining of the Deep Level Mine situated in the drainage area may be said to be practically accomplished, the drainage tunnel having been driven from the Old Pant-y-go Mine in this sett a distance of over 1000 yards through the property north and south, opening up a run of ore ground 200 yards in length, worth in places 3 tons to the fathom, which is acquiring greater value as it ascends into the bearing measures.

The Rhosmor Mine, which is also situated within the drainage district, before they were compelled to relinquish the working through an influx of water, divided a profit of about 34,000l. within a very short time. Three large powerful pumping engines were erected, but they were unable to cope with the water. It is expected that the deep tunnel will reach this property within three months time, when they will no doubt sell their engines for the benefit of the shareholders. The direct drainage tunnel will also pass through several other mining properties, amongst them the Pen-yr-Ossedd, the Vron Mine, Great Hendre, and lastly Rhydalun. It is considered not at all improbable that the draining of Rhosmor and Great Hendre will also drain the other mines above mentioned, which would accomplish the object of the Halkyn District Drainage Company. The Rhydalun property would then become one of the most noted mines in Europe, as independent of the enormous deposits of lead left in the old Llyn-y-Pandy workings, stated to be worth 10 tons of lead ore per fathom, they have also discovered a powerful masterly lode above water, worth in places 6 tons of ore to the fathom, and from which they are making large returns, and earning handsome dividends. This property lies in No. 2 of the drainage area, where the royalties payable to the Drainage Company will only be 1s. 10s. per ton for lead, and advantage of 1s. per ton over the royalties payable by some other mines in this group. No doubt whatever is entertained but that the results of Flintshire lead mining will shortly become as startling as those of the last generation.

AMIANTHINE COAL is the name given to a new artificial fuel, the invention of M. E. L. J. Rocher, of Toulouse, which is exciting much attention, especially in America. It is essentially a compound of amianthus in fine powder, charcoal, and nitrate of lead or lime, pressed into blocks.

MAKING SAND MOULDS FOR METAL CASTINGS.—An improved apparatus for compressing the sand in the flask or box instead of hand ramming, and in combining the compressing apparatus with the present well-known moulding machine, whereby the flask or box is withdrawn from the pattern or model by two mechanical movements. The details cannot be described without drawings.

FIRE-DAMP IN MINES.—At the French Academy of Sciences, M. Daubree read a paper by MM. Mallard and Le Chatelier relative to an extremely simple means of detecting the presence of fire-damp in the air of coal mines. The practice by which the mixture of that explosive gas with the atmosphere of the galleries is now detected is by observing the flame of a safety-lamp, which, when the fire-damp comes in contact with it, is surrounded with a blue aureole. Although this system is very convenient, it is not very sensitive, because the perception of the blue colour is rendered difficult by the neighbourhood of the far more brilliant white light of the lamp. To obviate that inconvenience, the miners reduce the flame when they wish to use it as an indicator. In spite of this precaution, the lamp only marks, to use the workmen's term, when the atmosphere contains at least 3 per cent. of the explosive gas. However, an ingenious necessity exists for being able to detect much smaller proportions, since M. Galloway has shown that air containing only $\frac{1}{100}$ per cent. becomes explosive in presence of fine coal dust. The method proposed by MM. Mallard and Le Chatelier is to have in every gallery a lamp in which a jet of hydrogen is burned instead of the ordinary illuminating oil. The hydrogen burns with an almost colourless flame, gives little light, but keeps heat. Owing to the latter property, when fire-damp is present in the air, it keeps the explosive gas burning and at the same time the flame elongates. The blue aureole becomes larger than in the case of the oil lamp, and is much more easily seen, because it is not eclipsed by the more intense light. The ordinary glass chimney is replaced by one of copper, in which an orifice is made at a suitable point with a magnifying glass at a proper

distance, permitting observations of extreme accuracy to be made. Many experiments have been carried out by a committee appointed for the purpose, and the report is that so small a proportion as $\frac{1}{100}$ per cent. of fire-damp in the air of the mine can be readily detected by the new method.—*Galignani.*

REPORT FROM CORNWALL.

April 17.—It would be altogether too much to expect any activity in mining, or indeed in any other business (except what may be connected with holiday making) in Easter week. All that can reasonably be anticipated is that the market shall remain steady, and that there shall be no falling off in future prospects, and with this certainty we have been favoured. The belief which we indicated when the condition of the tin market began to improve that we should see a substantial rise before Midsummer is now very generally entertained, and a further advance is with some confidence anticipated before the end of the month. Still it must be admitted that foreign complications do not at the present moment point in the direction of such a rapid revival of general business and commerce as there not long since seemed reason to expect. We do not think that anything is likely to happen to rob us of what we have already gained, but still it is quite as well to be prepared for a slower improvement than at one time seemed probable, and, indeed, so far as there is certainty in commercial matters, absolutely to be anticipated and depended on.

We have always been sceptical of the good effect of war upon our own immediate mining concerns—that is upon tin and copper mining; for we have always held that whatever might be gained by a slightly increased demand for war purposes was likely to be lost, if not more than lost, by the general dullness of trade which always follows in the train of war in any country engaged in warlike operations. But this of course applies to wars in which we are ourselves engaged. It is quite possible, however, that wars in which other metal-producing countries are concerned, by limiting production and thus restricting the supply, may enhance the value of our own products, and this seems very likely to be an experience with regard to the war into which Chili has entered. It was the great discoveries of copper in South America that brought down the copper mines of England, and especially of Cornwall, and any shortness in the supply from that quarter is certain to react favourably with us. Though copper mining has been somewhat falling behind of late, we believe there is a very wide field open for its extension alike in Devon and in Cornwall if prices were only at a fairly remunerative point. Even a moderate advance here also would lead to important results.

It is satisfactory to find that the remarks which we recently made in favour of the Cost-book System as compared with that of Limited Liability for general mining operations are so very widely endorsed. After all, theories as we may, experience is the best guide, and we have had proof, only too ample, that it is the Cost-book System which alone has enabled mining in the West to weather the storm. Another illustration, which has, however, in the brighter prospects of the present its encouraging side, comes from St. Just. It is now almost—indeed, we may say quite—certain that the St. Just Amalgamated Mines will be at work again. St. Just Amalgamated and Cape Cornwall will be at work together, under the appropriate name of St. Just United, and there is every confidence felt in future success. The Amalgamated Mines, when the limited liability company (in whose hands they were) fell short of funds, were yielding good returns of tin, and nothing but a want of money led to the suspension of operations. In the last month's working a single pair of men broke 12 tons of tin, and it is perfectly certain that had the Cost-book System taken the place of Limited Liability the mines would have been working at the present moment. When the property was sold Mr. Richard Bynns became the purchaser, and so men have always been employed from that time to this above the adit. But it is now to be once more thoroughly developed. With the advantage of an influential proprietary there will be an abundance of money forthcoming, and with the improved price for tin there is strong ground for believing this will turn out to be one of the finest paying properties in the district. Another six months will elapse before the mines are in fork and everything put in order, and then success seems to be assured. St. Just needs all it can get, for the pinch there has been severe.

There has been a lamentable illustration of the dangers of incautious dealing with dynamite, though only indirectly connected with mining. By an explosion, on Monday, at Higher Trannas, near Prazo, Crowan, Mary Rodda, aged 60, and her grandchild of four years old, were killed, and her two sons, J. and T. Rodda, seriously injured. The brothers, who are miners, were in the habit of devoting the time at their disposal after returning from the mine in bringing a piece of waste land or croft into cultivation, and found it necessary to use dynamite or some other explosive to break the granite rocks. On Monday, about 4 p.m., four cartridges were put into a du-tan and placed near the fire to soften whilst the brothers partook of dinner on their return from the mine, and during the time the family was enjoying their meal the cartridges exploded, killing Mrs. Rodda and her grandchild instantaneously, causing concussion of the brain and other injuries to one of the brothers, and so fearfully fracturing the right arm and shoulder of the other brother that it was feared that the arm would have to be amputated. The furniture in the room was shattered to pieces, one side of the house was blown out, and the roof lifted completely out of its place.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

April 17.—The adjourned delegate meeting of colliers has been held at Merthyr. The masters' proposals were submitted and refused by a large majority. About 20,000 men were represented, and there was a majority of about 9000 against accepting the employers' terms. There is no doubt the house colliers played an important part in the voting. If one comes to discuss the question whether the men have acted wisely in the matter there can be but one candid opinion. The result of the refusal will be to allow the sliding scale of agreement to run out. Now, it is generally admitted on all hands that this arrangement has been a protection to both sides; by rescinding it, therefore, the men will have to bear the brunt of what the masters will undoubtedly do on the expiration of the agreement—make the best terms they can with the men. There is nothing new from Dinas, and no fresh meetings have been held with regard to the proposed opening out of the Abercarn pit. A verdict of "Accidental Death" has been returned in the case of a man named Rees, who was killed by an explosion at the No. 2 Pen-y-darren Colliery, belonging to the Dowlais Company. Eight other men were also injured. An explosion of gas has also occurred at one of the company's other pits. Fortunately only one man was slightly injured. At the Gethin Pit, Merthyr, belonging to Mr. Crawshaw, of Cyfarthfa, a narrow escape has occurred. Half a score of boys were being let down, when the carriage struck against some obstacle and upset. Nine alighted safe on the sides, but the tenth broke his leg.

The past week has been a broken one, in consequence of the recurrence of the Easter holidays. The iron trade shows no improvement, and clearances of iron made last month make a poor comparison with those of the corresponding period of the previous year. Spring certainly has not heralded any improvement in this branch of industry. There are some small orders in hand, it is true, but they are executed necessarily at very low rates. Railway iron is a dull sale; bars are still rather more active. Following the example of Dowlais, a reduction in wages has been enforced at Briton Ferry. Bessemer steel rails sell at extremely low quotations. Iron clearances have been almost nil during the week. In the tin-plate trade the improvement noted of late continues. Prices are maintained up to late rates.

The Coal Trade is fairly active, and that the demand has increased is evident by the figures which are below quoted. The demand for steam qualities has been well kept up, but prices are stationary, and do not seem inclined to move. Thanks to the continuance of cold weather the demand for house qualities is steadily maintained. The colliers, as a rule, are irregularly employed; and, taking the average, nothing like fully. Shipments are rather larger. Patent fuel shows a little more animation.

During March Newport cleared 2546 tons of iron, compared with

8536 tons in the same month of 1878; Cardiff, 5764 tons, against 6974 tons; and Swansea, 169 tons, against 321 tons. In the same periods, too, Cardiff cleared 361,998 tons of coal, against 325,888 tons in the corresponding month of last year; Newport, 81,315 tons, against 58,595 tons; Swansea, 62,297 tons, against 61,030 tons; and Llanelly, 8686 tons, against 6529 tons. Coastwise clearances likewise were—Cardiff, 73,366 tons, compared with 63,539 tons; Newport, 85,922 tons, compared with 62,059 tons; Swansea, 51,665 tons, against 32,147 tons; and Llanelly, 9749 tons, against 10,121 tons.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

April 17.—The new orders which have reached the proprietors of mills and forges, and of blast-furnaces, in South Staffordshire as the outcome of the Quarterly Meetings have not been of great importance. The re-declaring of last quarter's prices has had the effect of leaving the market pretty much in the same position as before the meetings of last week were held. Still, actual selling rates are decidedly more favourable to buyers now than in January last. The steel question is engaging considerable attention amongst traders just now, and a fresh interest in the subject has been awakened by the specimens of steel made from Cleveland ores by Messrs. Bolckow, Vaughan, & Co., which have just recently been shown in this district. The coal trade is in a similar position as at the date of last report.

The matter of the raising of money by the members of the Tipton District Committee of the Mines Drainage Commissioners, with a view to preventing the stoppage of the pumping-engines, has this week assumed a still more favourable aspect. At a meeting of the committee in Wolverhampton, on Wednesday, most of the members offered to double the amount for which they had previously held themselves as guarantors, and it is understood that some 10,000l. is in this way now forthcoming. Other help is urgently needed, but meantime the pumps are being kept going.

On Monday Mr. Joseph Chamberlain, M.P., made his award in the dispute between the Cannock Chase miners and their employers, and the agreement is to take effect on and after April 1, and to continue subject to six months' notice on either side. The document sets forth that—"The new scale is to be based on the average selling price of deep and shallow coal at the four following collieries:—the Cannock Chase, Cannock and Rugeley, Brereton and Brownhills, and shall be as follows:—When the average price of deep and shallow coal is 15s. per ton wages shall be 3s. 6d. per holer's day; the rate of wages to rise or fall in the proportion of 1d. per holer's day for each 6d. per ton on the average price of deep and shallow coal, the wages not to be reduced below 2s. 3d. per holer's day, nor raised above 5s.

The miners' leaders are fully alive to the weakness at the present time of their Union in this district, and they are, therefore, holding meetings amongst their constituents with a view to stimulating the Union movement. Such resolutions as the following are being adopted at gatherings of the miners in several of the districts in South Staffordshire:—"It is the opinion of this meeting that a conference should be held at some central place with a view to bringing the miners of North and South Staffordshire, Salop, and East Worcestershire together, as nothing but a more powerful combination amongst the pitmen of these counties will enable them to protect their social and industrial interests."

The South Staffordshire and East Worcestershire Mining Accident Fund quarterly meeting was held in Wolverhampton on Wednesday. The secretary reported he had applied to the trustees of several colliery accident funds for a grant out of any surplus they might possess. The replies did not lead to the belief that much aid would be available from this source. Eight widows whose husbands had been killed while at work at collieries were each voted 4l. 10s., and twenty children, all under thirteen years, comprised in the families were each granted 10s. These grants did not half consume the amount available for distribution.

A meeting of the creditors of Messrs. Harrison and Son, of the Cormorant Ironworks, Walsall, has been held at Birmingham. The debtors' solicitor proposed the acceptance of a cash composition of 3s. 6d. in the pound, which he said a friend of the debtors was prepared to pay down within a fortnight of the registration of the resolutions if necessary. The debtors' statement of affairs showed that the unsecured liabilities were 4427l. 15s. The assets were a total of 863l. From this sum 203l. had to be deducted for payment in full to creditors, leaving the net assets at 659l. The creditors resolved to adjourn the meeting for a fortnight, and appointed a committee to investigate and report on the debtors' affairs.

The directors of the John Bagnall Iron Company issued their report on Thursday. It shows a loss on the year of 12,693l. The directors state that 16,000l. is still due to the company from Mr. Albert Grant, who was one of the promoters. A meeting of the creditors of Messrs. Edward's Brothers, of the Cape Ironworks, was held in Birmingham, on Thursday. The liabilities amounted to 31,000l., and the assets to 10,000l. It was determined to wind up the estate in liquidation.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

April 17.—Perhaps I had best begin this report by answering my question of a few weeks back. Given a mine the purchase money for which is 70,000l., and in which every other fathom of the lode forward will yield a net profit of 3l. 10s., how many fathoms of ground will have to be cut before the purchase money will be repaid to the purchasers? My answer is 43,750 fathoms, equal, leaving out fractions to a space of the lode, to one mile long by 25 fathoms deep. If to the purchase money we add 35,000l. for further development we shall require half as much again before the mine will repay its outlay. I make no further comments.

Looking over last year's Journals I see that the Mineral Corporation of Great Britain has been incorporated a year. Now, considering that the mines selected for operation were partly developed when this company took them, we ought soon to hear of some tangible results.

We cannot but wish the National Bank of Wales success, although it can hardly be said that there is a great lack of banking facilities in the Principality. The North and South Wales have been increasing the number of their branches, so has the National Provincial Bank of England, and both have been absorbing some of the lesser local banks. Some of these latter, however—the Carnarvonshire District Bank for example—have extended their business of late years, and the Midland Banking Company is pushing its way successfully westward. Still, spite of temporary drawbacks the trade of the Principality is increasing, and the amount of profit made by existing banks show that there is scope for another.

It appeared lately as if the lime and limestone trade was improving, but I am sorry to record that this is not the case. Some of the large quarries have not sold so much during the first quarter of the year by 1000 tons as they did last year, bad as trade was then.

Accidents have been of rare occurrence on the Festiniog Narrow Gauge Railway, but on Wednesday last, the 9th inst., a loaded slate train ran off the line near Portmadoc. Happily no lives were lost, but the wagons and slates were much damaged.

There have of late been bands of ruffians at Abergolwyn, a slate quarrying village near Towy, who have been doing great mischief and committing many depredations in a lawless and audacious manner. This is an unusual state of things for North Wales, and the magistrates assembled in Quarter Sessions at Dolgelly, last week, expressed their determination to put a stop to it.

The sub-committee of the Liverpool Town Council have finally decided in favour of the scheme for bringing water to Liverpool from the upper tributaries of the River Vyrnwy, near Llanwddyn. The estimated cost for a supply of 40,000,000 gallons per day is 1,253,294l.

The works for the drying and preparation of sewage sediment by Kidd's patent process are now in course of erection at the Oswestry sewage tanks. The result of this trial will determine the advisability of treating sewage by this or similar processes in the case of larger towns.

The people of Oswestry are about to memorialise the Great

Western Railway Company to place the town on the main line, or rather, to construct the main line by the town, which is now served by a short branch. With the competition as to time there is between rival railway companies the railway company can hardly be expected to comply with their request. There is also a complaint that the town is not well served by the local branch trains.

TRADE OF THE TYNE AND WEAR.

April 16.—The strike in Durham has extended, and is now with only few exceptions general in the county, and it has had a very bad effect on the trade of the district. The shipments of coal at Tyne Dock and in the Wear have, of course, fallen off to an enormous extent. Many steamers are laid up at Sunderland and on the Tyne, and several have left for Cardiff and other ports to load coal, and some have left in ballast for foreign ports. Previous to the strike 81 coal mines and 57 metalliferous mines in the Durham district had been closed on account of depression of trade. The coal mines stopped by the strike amount to 150, and there are only 30 in operation now in the county, and those are mostly small concerns. Should the strike continue it is evident that it will become nearly general in the county of Durham; and although the men hold that they have a good case, alleging that the masters have refused arbitration, this is not strictly true; they have refused to arbitrate on the present position, as they, we believe, justly state that no profits can be made by them at present. The present position of the men, formidable as it appears, has been gained to a great extent by intimidation carried out in such a way as to escape in most cases the action of the law, but if it proves to be a fact on investigation that the wages of the Durham miners are higher and the hours of working shorter than those of the men in Scotland, Wales, and other districts, their position will in time prove to be untenable. The leaders of the Union appear to studiously avoid giving the present average earnings from which the masters propose to deduct 15 per cent., but the official account given by Mr. Bunning, is as follows:—The average wages of hewers in the county are 5s. 0½d. per day, when the pit worked 11 hours, and 4s. 8d. per day when the pit worked 10 hours, with free houses and free coal, the duration of the hewers' shifts being in each case respectively six and five and a half hours. 1. Then the owners offered on Feb. 20 to accept 10 per cent. reduction on underground, and 7½ per cent. on surface labour, and leave the rest to arbitration. 2. This offer was refused by the men. 3. The owners then reduced their original demand of 20 per cent. and 12½ per cent. reduction to 15 per cent. and 10 per cent. 4. This would, if accepted, reduce the 5s. 0½d. and 4s. 8d., the present county averages, to 4s. 3½d. and 4s. respectively, with free houses and free coal. The average selling price of all coal in Durham was, for four months ending November, 1878, 46s. per ton. A meeting of the Owners Committee was held on Tuesday in Newcastle, when it was resolved to abide by the offer of Feb. 20, given above, and as the men agreed to accept the reduction proposed on that date, providing that no further reduction would be required, while the masters proposed to refer the balance to arbitration, it is quite clear that if the men do not accept the terms now offered it follows that the men refuse arbitration and not the masters. It is to be hoped that wiser counsel will prevail.

The Coal Trade in Northumberland has improved considerably, and most of the works are now fully employed. This is partly owing to the opening out of the spring trade, and aided, of course, considerably by the extensive strike in Durham. Ships at present have to wait about one week for cargoes. The strike in Durham, if continued, will prove a very serious matter indeed, as the regular output of coal in the county is enormous, and its quality is also peculiar. A great portion of that produced in Durham is coking and gas coal, which other districts cannot readily supply. The effect on the Cleveland iron furnaces will also be very serious, as many of them must be damped down, and others blown out altogether. This process has already commenced.

The Cumberland Coal Trade continues very dull; heavy reductions have been made in miners' wages, and further reductions are intended to be made. At Broughton Moor and adjoining works, near Maryport, a strike has occurred, about 500 hands being employed. A mob collected a few days ago and attacked the manager's (Mr. Watson) house, which they wrecked. Emigration is going on very brisk, large numbers of miners are leaving Cumberland and Durham for America and other countries.

P.S.—The dispute in the Durham coal trade has, we hope, now assumed a more hopeful aspect, as the masters have stated that they will adhere to the offer made on Feb. 20, referred to in my letter, and the officials of the Miners' Union have referred the matter to the men, who will vote on the question, and decide whether they will accept the terms offered or not.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

April 17.—As usual, there has been some slight interruption to the business doing at the mines and ironworks owing to the holidays, but short work and low wages have tended to curtail the period usually devoted to enjoyment. This has led to no inconvenience, seeing that trade is not so pressing. In the lead districts matters have been going on quietly, for the miner engaged in raising lead ore is of a more contented nature, and not so luxurious in his tastes as the one employed at the collieries. There has been no change with respect to the lead mines, but the weather will now admit of operations being more satisfactorily carried out as to extensions, &c. The quantity of ironstone being raised in Derbyshire is not much more than half what it was at one time, more attention being paid to the ores of Northamptonshire than formerly, some of the firms working them on their own account instead of taking them second-hand. The Midland gives a moderate rate from Wellingborough, Market Harborough, Kettering, &c., and this evidently has done much in increasing the consumption of the stone at the furnaces in Derbyshire. There has not been much alteration as regards the manufacture of pig, a good many furnaces being still out, and whilst passing over the Midland in the early part of the week we were struck with the large quantity that was stacked at some places. But it may be said that the present prices are anything but remunerative, whilst as it is not likely that they will fall lower, holders are likely to be rather better off than sellers. Some of the foundries have been doing a fair business in pipes and other castings, but the production is far below what it was, seeing that there is not the same number of hands employed that there were formerly. There appears to be a tolerably fair enquiry for house coal, and to some extent at least this may be attributed to the great strike of coal miners in Durham, so that the stoppage of so many pits throws a large amount of trade into other districts, more particularly those inland; but prices as yet have not advanced in consequence. The business doing with London has kept up very well from Clay Cross, and several others of the leading collieries connected directly with the Midland Railway. A good deal of house coal has also gone towards the West of England, where Silkestones hold their own against the local coal. No material improvement has taken place with respect to steam coal, but a better demand is now looked forward to as the usual active season is about opening.

In Sheffield the holidays have been kept, but not with that profusion which characterised former years, for many men have been entirely out of employ, and others receiving only three or four days in the week, whilst some of the works are likely to be closed all the week. Makers of Bessemer rails are doing as well as ever, some large orders having been recently booked; but prices are certainly very low, but it is evident they are such as to pay. Bessemer steel is also being used in the production of the plates for the British Navy, it being put on a backing of iron. Two or three of the leading cutlery houses are fairly off for trade in the best qualities of table, pocket, and penknives, but common goods appear to be quiet. Makers of malleable material are working steadily, and some of the mills engaged in ship and boiler plates are turning out more than they did.

The Thorpe's Gawber Hall Collieries shareholders have received a circular, stating that a special general meeting will be held in London on the 29th inst., to take into consideration the present position

and prospects of the company, and the winding-up of the same if it be deemed expedient; also for the purpose of passing a special resolution to wind-up the company voluntarily. The dispute at the colliery, after lasting about two months, during which from 500 to 600 men and boys have been thrown out of employment, has at last been brought to a close. A deputation, headed by Mr. Firth, secretary of the Miners' Union, waited upon the directors, at the Queen's Hotel, Barnsley, on Tuesday, and the men held a meeting in the evening, and they agreed to accept the directors' terms on condition that, in the event of trade reviving, the directors will place them in the same position as neighbouring collieries. The men have resumed work. We are informed on good authority that the company anticipate now no difficulty in completing financial arrangements to carry the concern on.

REPORT FROM THE FOREST OF DEAN.

April 17.—Excepting the tin-plate trade the staple industries of the district are in a sluggish condition, for although the weather has continued very wintry almost up to the present date the coal trade has recently had a tendency downward, until at present it has become quite dull, and the labour market has become very slack, and the look-out for the local bread winners is anything but encouraging. The effects of these discouraging aspects of trade are manifest in the wide-spread awakening on the subject of emigration to our colonies, many applying to the agents for Australia and New Zealand, and a few for Texas, Canada, and the United States. This is deplored by some as being likely to injure the Forest, but whilst we should regret any injury which would be inflicted upon the Forest proprietors we are bound to commend the thoughtfulness of the working men who being deprived by circumstances from getting a fair subsistence at home have the wisdom and courage to seek a new home in young and rising colonies. The Forest proprietors to some extent will have to blame themselves for losing their workmen through their depending so largely upon the household coal trade, instead of seeking to combine other businesses with their collieries and coal trade. They should remember that whilst they (the masters) are enabled to live during slack trade by having previously realised property the working classes are compelled to live from hand to mouth, and that in hard times few of them have anything to fall back upon. There is a local grievance felt against the sale of coal to the local public—that whilst the merchants are supplied at the pits according to quality or character (nuts, rubble, block, best block, &c.) the top price is charged for the article mixed—nuts, rubble, block, &c., all in a mass. The tin-plate trade is understood to be locally fairly active at Lydney, Lydbrook, and at Churchway. Some accidents to the staging at the Severn bridge from late high tides are likely to protract the period necessary for its completion.

FOREIGN MINING AND METALLURGY.

The Paris coal market has been extremely dull. The dead season has, indeed, set in for domestic qualities, and there has been no improvement in the demand for industrial qualities. The net profits of the Loire Mines Company for 1878 have just been returned at 51,568fr. Of this amount 15,657fr. was applied to the redemption of the cost of new works executed during the year. A dividend of 8s. per share was declared, absorbing 32,000fr., and a final balance of 27,511fr. was carried forward to the credit of 1879, after some other charges had been provided for. Notwithstanding the depression which so persistently affects French metallurgical industry, the shares in the Mokta-el-Hadid (Algeria) Magnetic Iron Minerals Company will receive at least as large a dividend for 1878 as that distributed upon them for 1877. The amalgamation of the company with the Soumali and Tafna Mines Company has now become definitive. The Mokta Company acquires all the property of the Soumali and Tafna Company in consideration of the creation and exchange of 6657 new shares entirely paid up, and participating in dividends as from 1880. The property thus acquired is said to contain 6,000,000 tons of rich and superior minerals, and arrangements are being made for shipping these minerals in the most expeditious possible manner.

In the Charleroi basin the ironworks have a certain amount of employment, but complaints are made that the rates current are still by no means so remunerative as could be desired. Purchasers can, indeed, satisfy their requirements upon very advantageous terms. The rolling-mill of the Phoenix Company at Châtellineau, which had been stopped in order to admit of the installation of new furnaces, has been again brought into activity. The Dyle and Bacalon Works Company has just concluded a contract for the supply of a considerable quantity of ironwork for the pier which is to be built for the port of Rio de Janeiro. The contract comprises more than 2000 tons of iron, and is to be executed immediately. This order is the result of some surveys made in 1876 by M. Durieux. In 1874 the Dyle Company carried out somewhat similar work at Para, which appears to have turned out pretty well. The pier which is to be built at Rio de Janeiro will extend rather more than 620 ft. into the sea; it will be 46 ft. wide, and three lines of railway are to be laid down upon it. Some important works of a similar character are said to be in contemplation at Patras, Greece. A contract has been let this week at Brussels for the works of the building intended to accommodate the Belgian National Exhibition, to be held at Brussels in 1880.

It is stated that the Administration of the Belgian State railways will give out shortly some rather important orders for coal; low prices are, however, anticipated rather than any possible advance. It could not well be otherwise, since the market is in by no means a brilliant condition. The question of the improvement of navigations continues to occupy a large measure of public attention in Belgium. One of the members of the Chamber of Deputies—M. Le Hardy de Beaulieu—argued in a recent speech in favour of the creation of a shipping port on the Escaut between Antwerp and the embouchure of the Rupel. At this point M. Le Hardy de Beaulieu argued there would easily arrive coal from Mons, Charleroi, the Centre, and Liège, in order to be forwarded to Gaud, Flanders, the Upper Escaut, Holland, France, the Baltic, the Mediterranean, and ports on the Atlantic. The collieries of the Hainaut belonging to the south central basin have just formed an association. The office of the association has been established at Binche. Questions of common interest have induced these collieries to group themselves together in this manner.

A new petroleum spring is announced to have been discovered in the bitumen mines of Pechelbrunn, in Lower Alsace. The spring burst into one of the galleries in the course of further excavations, and flooded them to the extent of 1750 cubic metres, more than double the annual quantity at present obtained from the mines. No accident occurred.

With reference to the shipments of American coal to Europe a private letter from Rome, quoted by a United States contemporary, says that the trade is steadily growing, and that Italy will probably prove the best market. At the time of writing a negotiation was pending with one Italian firm for 100,000 tons, and would probably be concluded. The first cargo from the States was shipped to Marseilles, arriving in January last year. The greater part of that cargo was sent to Genoa. Since that experiment there have been twenty-one shipments, eight going to Genoa and the rest to Trieste, Marseilles, Cadix, Bilbao, Bordeaux, Alexandria, Leghorn, and Havre.

GENERAL MARKETS.—There has been very little business doing this week. Egyptian stocks attract the most attention; Unified have not fallen much, but the "Delta" Loan and the Preference Stock have been heavily sold, and show a considerable fall for the week. Turkish securities are firm, but do not show much change. Chili Bonds have recovered somewhat after their fall. Argentine also are better. English railways nearly all show an improvement for the week, particularly Brighton A stock and Great Eastern; the latter have been as high as 57½. The traffic return for last week was very good, showing 11,720,000. I expect to see this stock considerably over 60 before long. Considering the very unfavourable weather for the Easter holidays, the traffic returns of all the lines were by no means unsatisfactory. There is not much to notice with regard to miscellaneous securities. Consols still keep very firm, the price to day being 98½. Mines are without much alteration; tin and copper are firmer, and shares in more demand. Lead is weaker, and lead shares not quite so much dealt in. South France: I expect a dividend of 15s. per share at the meeting, and shares have risen cent. per cent. since I first referred to them. Herodasfoot also may

have a great rise.—W. H. H. WATSON, 1, St. Michael's Alley, Cornhill, E.C., April 18.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

SILURIA.—A shareholder in one of the D'Eresby group of mines, wrote us the other day that in a conversation he had with a "practical geologist" respecting the lead-bearing strata of North Wales, the latter insisted that it was impossible to find productive lodes either east or west of the River Conway, and he founded his assertion on the principle, as he said, that lead was not generally looked for nor expected to be found in either of the Silurian formations, upper or lower, but particularly the lower, in which our mines were. He also observed further that lead-bearing lodes were invariably looked for and found in the mountain limestone. Who the "practical geologist" is we do not know, but he evidently startled our friend, and may have frightened others. We wish to state, therefore, for their comfort that the richest mines in Wales have been—as Van is—in the Silurian formation, and there is an extraordinary resemblance between the stuff at Aberllyn and that at Van. This has always struck us, and we understand one of the original owners and discoverers of Van visited Aberllyn last week, and was also struck with the analogy between the lodes. In Cardiganshire again nearly all the rich mines are, if we mistake not, in the Silurian formation. Van is in the lower Silurian, which is sometimes volcanic. We have seen the gas issuing from crevices in the rock, have applied our candles to it, and seen it blaze up; indeed, at one time, soon after the lode was discovered, there was a sort of fear or "scare" as to a general blow up, and great care had to be taken at all times in cutting into the lode. The gas would send out the water with great force and then ignite.

The Silurian rocks lie between the Cambrian and the Devonian, or red sandstone formation, and were so named by Sir Roderick Murchison, after the Silures, a tribe of ancient Britons; by some they have been called transition rocks, and are chiefly composed of what miners used to call "graywacke," slate, shale, limestone, and sandstone. The great gorse lode of D'Eresby Mountain and Aberllyn is made up of limestone of several feet in width, interspersed throughout, as in Roman Gravels and Tankerville, with lead; and also of an immense body of shale and blende, precisely similar to Van.

PRINCE OF WALES.—At the last meeting of shareholders it was decided (1) to set pitches on the silver lode at a trifling cost, so as to keep on the set at a trifling expense; (2) to get in calls so as to pay off debts; and (3) at the same time take advantage of any opportunity of selling the property as a going concern to another company. At that time the liabilities over assets amounted to 4307, 18s. 6d. The committee were also requested to have a valuation made of the machinery and plant. Operations on a small scale have, therefore, been going on both in the silver and mundic lodes, but no opportunity has occurred for disposing of the set. In fact, the times have been altogether against selling the property, and its position now is just this—total liabilities, 6927, 0s. 9d.; calls unpaid, 6997, 11s. 6d.; so that if all calls could be got in they would more than meet the debts, while the machinery has been valued at 8007, taking things at the lowest estimate. In regard to calls, we and others who have paid up grumble at those who do not pay, and blow up the secretary for not getting them in; then he writes to the defaulters threatening law, and gets blown up by them also, thus having a lively time of it altogether. However, we understand all the tribute and other accounts will be made up at the end of this month, and a meeting called soon afterwards. In the meantime it would be as well to remark to these shareholders who take no notice, so far as paying goes, of repeated applications for their calls, that they are personally liable for the whole debts of 6927, 0s. 9d., and their only protection from proceedings being taken against them in case of necessity is in paying up their calls at once.

We agree with our correspondent that some easier name might be found for a mine than "Gwernymynydd." We cannot translate it.

Fabriz ore is in reality grey copper, containing also antimony, iron, sulphur, lead, and silver.

SATURDAY, APRIL 12.—Market very quiet, and prices nominal in consequence of most of the dealers being absent. Van, 20 to 21; Great Laxey, 15½ to 16½; Roman Gravels, 8½ to 9; Aberllyn, 10 to 12; Herodasfoot, 3 to 4; West Chiverton, 2½ to 3½; Carn Brea, 30 to 32; Dolcoath, 27 to 29; South Condurrow, 11½ to 12; South France, 10½ to 10¾; West France, 8½ to 9; Peavor, 9½ to 9¾; Devon Great Consols, 2½ to 2¾; Parys Mountain, 10s. to 12s. 6d.; Mellanear, 3½ to 3¾; Marke Valley, 10s. to 15s.; Cape Copper, 27½ to 28½; Don Pedro, 11s. to 16s.; Fancullo Copper, 25s. to 27s. 6d.; Santa Barbara, 2½ to 2¾.

MONDAY, APRIL 14.—Bank holiday. Market closed.

TUESDAY, APRIL 15.—Market generally firm, and a fair business has been done in most of the leading tin and lead shares. Carn Brea, 30 to 32; Dolcoath, 28 to 30; South France, 10½ to 11; West France, 8½ to 9; South Condurrow, 11½ to 12; Tincroft, 10 to 11; Agar, 3½ to 4; Peavor, 9½ to 9¾; Grenville 3½ to 3¾; Van, 20 to 21; Great Laxey, 15½ to 16½; Roman Gravels, 8½ to 9½; Aberllyn, 10 to 12; Bettws-y-coed, 20s. to 25s.; East Van, 1½ to 2½; Herodasfoot, 3 to 4; Glenroy, 7s. 6d. to 12s. 6d.; Leadhills, 2½ to 2¾; Tankerville, 3½ to 3¾; West Ashton, 25s. to 30s.; West Chiverton, 3 to 4; West Tolgus, 25 to 28; Devon Consols, 2½ to 2¾; Mellanear, 3½ to 3¾; Parys Mountain, 10s. to 12s. 6d.; Marke Valley, 12s. 6d. to 17s. 6d.; Orebor, 6s. to 8s.

WEDNESDAY, APRIL 16.—Market for tin and copper shares continue firm at yesterday's quotations. In lead shares Van are weaker at 19½ to 20½; Tankerville, 3½ to 3¾; Leadhills, 1½ to 2¾.

THURSDAY, APRIL 17.—Market firmer for tin shares. South Condurrow, 11½ to 12½; Tincroft, 10 to 11; Peavor, 9½ to 9¾; West Peavor, 2½ to 3; South France, 9½ to 10½; Carn Brea, 30 to 32; Dolcoath, 28 to 30; Van, 20 to 21; Great Laxey, 15½ to 16½; Roman Gravels, 8½ to 9; Tankerville, 3½ to 3¾; West Chiverton, 3 to 4; West Tolgus, 25 to 27; Parys Mountain, 10s. to 12s. 6d.; Mellanear, 3½ to 3¾; Marke Valley, 12s. 6d. to 17s. 6d.; Devon Great Consols, 2½ to 2¾; Grenville, 3½ to 3¾; Don Pedro, 11s. to 16s.; Santa Barbara, 2½ to 2¾.

FRIDAY, APRIL 18.—Market moderately active. Van, 19½ to 20½; Roman Gravels, 8½ to 9½; Tankerville, 3½ to 3¾; Leadhills, 2 to 2½; West Chiverton, 3 to 4; Aberllyn, 10 to 12; West Tolgus, 25 to 30; Mellanear, 3½ to 3¾; Parys Mountain, 10s. to 12s. 6d.; South Condurrow, 11½ to 12½; South France, 10½ to 10¾; West France, 8½ to 9; Grenville, 3½ to 3¾; Peavor, 9½ to 9¾; West Ashton, 25s. to 30s.; East Van, 1½ to 2½; Dolcoath, 28 to 30; Carn Brea, 30 to 32; Tincroft, 10 to 11; Richmond, 8½ to 9½; Don Pedro, 15s. to 16s.; Santa Barbara, 2½ to 2¾; Eberhardt, 4 to 4½.

MR. WILLIAM H. H. WATSON begs to offer his advice and services to Shareholders and Intending Investors in Mines, and in the Purchase and Sale of Shares.

Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

DRESSING COALS AND MINERALS.

An improved sifting apparatus for dressing coals, ores, and like substances has been invented by Mr. H. HOCHSTRATE, of Homburg-on-the-Rhine. In carrying the invention into practice he provides a rotating drum-sieve, by which the material to be sifted is sorted according to its size. Each size of material falls into a funnel-shaped catcher passing below the said drum from which it falls into the air-current passing through a canal, the said air-current being driven by fans, blowers, or by any other suitable apparatus. This air current carries all particles of dust into a dust chamber, while the larger and rounder grains fall on a device hereinafter called a floor, and roll away into a funnel. The heaviest or more flat pieces remain on the said floor and are carried by the same as it moves in the opposite direction to the air-current into a hopper. This floor consists of chains with metal plates having the same width as that of the lengths which are rivetted to the same. With materials, the heaviest pieces of which are of one form, as for instance slate among coal, the endless floor is covered with a leather or indiarubber band in which suitable indentations are made; in this manner the slate is effectually sorted from the coal as the latter is more rounded in shape, and the former flat.

For each size a canal is provided, each having an endless rotating floor resting on chain wheels driven from a common axle. Each air-channel is attached to a frame which rests on the said common axle

and carry a chain wheel with their axles at their other ends; these frames are provided with regulating screws by which the incline of the said canals can be regulated to suit any size of material. It will also be understood that for each size a different pressure of air is required. A shaking apparatus is placed below each rotating endless floor, so that the material on the same is given a sort of jumping motion. The dust chamber and hoppers are provided with endless screws or other suitable apparatus to remove the substances deposited in the same. The said hoppers are each provided with an endless screw, so that it can at once be seen if the apparatus is properly regulated.

TRANSMISSION OF POWER BY COMPRESSED AIR.

The opinion is now very general that the maximum of economy in the use of rock-drilling machinery is to be looked for less in the further improvement of the drills themselves than in the perfection of the air-compressing machinery, and this perfection can only be arrived at by careful attention to the various scientific considerations connected with the subject. The whole question is ably discussed in a recent volume* of Van Nostrand's Science Series, by Mr. Robert Zahner, and the information he supplies is so valuable that it should be generally studied by all who have occasion to use compressed air. The subject of compressed air and compressed-air machinery offers, as Mr. Zahner states, a wide field for useful investigation. Compressed air has become a most efficient and powerful agent in the hands of the modern engineer. Its applications are rapidly growing both in extent and importance. There can be no doubt that the great waste of energy that to-day accompanies the use of compressed air is due not only to sickly design and faulty construction of machines, but very largely also to the general ignorance of the principles of thermodynamics. In his historical notice Mr. Zahner points out that the application of compressed air to industrial purposes dates from the close of the last century. Long before this, indeed, we find isolated attempts made to apply it in a variety of ways, but its final success must be ascribed to the present age—the age of mechanic arts—an age inaugurated in so splendid a manner by the genius of Watt, and which has been so wonderfully productive in good to mankind. Cubitt and Brunel, between 1851 and 1854, first applied compressed air in its static application to the sinking of bridge caissons. Prof. David Colladon, of Geneva, in 1852, first conceived and suggested the idea of employing it in the proposed tunnelling of the Alps, and finally Sommeiller first practically realised and applied Colladon's idea in the boring of the Mont Cenis Tunnel.

For transmitting power to great distances shafts, belts, friction wheels, and gearing are clearly out of the question. The practical incompressibility and want of elasticity of water renders the hydraulic method unfit for transmitting regularly a constant amount of power; it can be used to advantage only where motive power acting continuously is to be accumulated and applied at intervals, as for raising weights, operating punches, compressive, forging, and other work of an intermittent character requiring a great force acting through a small distance. Compressed air is the only general mode of transmitting power; the only one that is always and in every case possible, no matter how great the distance nor how the power is to be distributed and applied. No doubt as a means of utilising distant yet hitherto unavailable sources of power the importance of this medium can hardly be over-estimated. But compressed air is also a store of power, for we can accumulate any desired pressure in a reservoir situated at any distance from the source, and draw upon this store of energy at any time, which is not possible either in the case of steam, water, or wire-rope. But compressed air is especially adapted to underground work; steam is here entirely excluded, for the confined character of the situation and the difficulty of providing an adequate ventilation renders its use impossible. Compressed air, besides being free from the objectionable features of steam, possesses properties that render its employment conducive to coolness and purity in the atmosphere into which it is exhausted. The boring of such tunnels as the Mont Cenis and St. Gothard would have been impossible without it. Its easy conveyance to any point of the underground workings, its ready application at any point, the improvement it produces in the ventilating currents, the complete absence of heat in the conducting pipes, the ease with which it is distributed when it is necessary to employ many machines whose positions are daily changing, such as hauling engines, coal-cutting machines, and portable rock drills; these and many other advantages when contrasted with steam under like conditions give compressed air a value which the engineer will fully appreciate.

There is every reason to believe that compressed air is to relieve a still more extensive application. The diminished cost of motive power when generated on a large scale compared with that of a number of separate steam engines and boilers distributed over manufacturing districts, and the expense and danger of maintaining an independent steam power for each separate establishment where power is used, are strong reasons for generating and distributing compressed air through mains and pipes laid below the surface of the streets in the same way as gas and water are now supplied. Especially in large cities would the value of such a system be invaluable; no more disastrous boiler explosions in shops filled with hundreds of working men and women; the danger of fire greatly reduced; a corresponding reduction in insurance rates; an important saving of space; cleanliness, convenience, and economy. As affording a means of dispensing with animal power on our tramways compressed air has been proposed as the motor. It has already met with some success in this direction, and to-day there are eminent French, English, and American engineers at work upon this interesting problem. Mr. Zahner treats first of the conditions modifying efficiency in the use of compressed air—loss of energy, methods of cooling, conditions most favourable to economy in the use of compressed air, efficiency attained in practice, and losses of transmission. In treating of the physical properties and laws of air Mr. Zahner deals with the subject in a manner which will make it intelligible to every practical man, and the same may be said of the subsequent chapters—thermodynamic principles and formulae, thermodynamic equations applied to permanent gases, thermodynamic laws applied to the action of compressed air, the efficiency theoretically attainable, the effects of moisture, of the injection of water, and of the conduction of heat; American and European air compressors; and examples from practice. There is, probably, no other book containing the same amount of useful information in a similar space, a circumstance which will suffice to commend it to the attention of every engineer who uses or could use compressed air as a motor.

STEAM-ENGINES.—The invention of Mr. CHARLES NOTTBRECK, of Tammerfors, Finland, relates to the class of steam engines known as rotary steam-engines. The outer cylinder is bored out eccentrically to the inner cylinder, in which are two slots for the slides which act as pistons, and which are kept in contact with the inner periphery of the outer cylinder by springs or by steam. At each end of the cylinders is a circular plate which keep the piston slides in their places, and the driving axles are connected to these plates. At the under side of the inner cylinder is a plate which is pressed by springs against the inner cylinder to keep it steam-tight, and oil is admitted at the point of contact to lubricate the parts. At one side of this plate the steam is admitted, and at the other side the exhaust steam is discharged.

CHEMICALS, MINERALS, AND METALS.—Messrs. J. Berger Spence and Co. (April 12)—Alum: Loose lump, 6s. 6d.; ground, 6s. 15s.—Arsenic: Best white powdered, 8s. 15s.—Borax: Refined, English, 26s.—Copperas: Green, 21s. 6d.; white, 8s. 7s. 6d.—Copper: Sulphate, 18s. 5s. to 18s. 10s.—Nitrate of Lead, 21s. 6d.—Sulphate: Refined English, 23s. 15s. to 25s.—Sulphate of Zinc, 9s. 0d. 0d.—Sulphur: Roll, 8s. 10s.; flowers, 10s. 10s.—Tin crystals, 5s. 4d. per lb.—White Lead, 20s.—Barytes: Carbonate, 5s.—Brimstone: Best thirds, 5s.—China Clay, 38s.—Oxide of Zinc, 22s. 10s.—Talc, 5s.—Umber, 70s.—Charcoal: Best stick, 4s. 4d. per bushel; field burnt, 6d.—Globe Steam-Boiler Powder, 16s. per cwt.—Naphtha, Mickle, 60 per cent., 4s.

* "The Transmission of Power by Compressed Air." By ROBERT ZAHNER, M.E. New York: Van Nostrand, London: Trübner and Co., Ludgate Hill.

PONTPOOL FIRE-BRICK AND COAL COMPANY (LIMITED), CWMFFRWDOR, PONTPOOL. IMPORTANT SALE OF FIRE-BRICK WORKS AND COLLIERIES.

Messrs. W. GRAHAM AND SON are instructed by the Liquidators of the above company TO SELL, BY AUCTION, at the King's Head Hotel, Newport, Monmouthshire, on Tuesday, the 23rd of April, 1879, at Two for Three o'clock in the afternoon (subject to the conditions of sale to be then produced), all those

FIRST-CLASS AND SUBSTANTIALLY BUILT FIRE-BRICK WORKS, Together with the HOUSE COAL COLLIERY AND FIRE CLAY LEVEL THEREABOUTS,

Situate at Cwmffrwdor, near Pontpool, in the county of Monmouth, and comprising about THIRTY ACRES (more or less), and recently carried on by and belonging to the Pontpool Fire-brick and Coal Company (Limited).

The premises are held under lease, which includes all the Minerals lying above the Rock Vein Coal, as to part thereof, for an unexpired term of 23 years, granted, or covenanted to be granted, at low royalties, and subject to the minimum mineral rent of £30 per year and of 2s. 6d. per acre for the user of surface land therein referred to; and as to the other part thereof, including the surface, for an unexpired term of 95 years, at low royalties, and subject to the apportioned minimum rent of £21 1s. 10d. per annum.

The works are very favourably situated for the purpose of carrying on a large and extensive business, being surrounded by important Iron Manufactories and Tin-Plate Works.

THE SALE WILL BE WITHOUT RESERVE. Further particulars may be obtained upon application to Messrs. GANE and JACKSON, Coleman-street, London, or Newport, Mon.; Messrs. JER and DANIEL, Mining Engineers, Market House Chambers, Pontpool; to the Auctioneers, Victoria Chambers, Newport, Mon.; or to Messrs. GREENWAY and BYTHWAY, Solicitors, Pontpool.

EAST DOWN, DEVON.

Messrs. GOULD AND SANDERS WILL SELL, BY AUCTION, at the Golden Lion Hotel, Barnstaple, on Friday, 2nd May, 1879, at Four o'clock in the afternoon, the following

FREEHOLD PROPERTIES:—

LOT 1.—All that Residential Estate, known as HIGHER VIVEHAM, East Down, Devon, containing 180 A. 1 R. 2 P., or thereabouts, and now for some years in the occupation of Mr. John Sanders. The Estate is situated within 3½ miles of Barnstaple. It comprises a capital Dwelling house, with all necessary Outbuildings. Valuable seams of Manganese and Iron ore run under the property.

LOT 2.—All that Estate, known by the name of LOWER VIVEHAM, in East Down aforesaid, containing, together with valuable Woods and Plantations thereto belonging, 100 A., or thereabouts. Valuable lodes of Manganese and Iron ore run under the Estate, and a lease has been granted of iron lodes (under about 50 acres) of this property, for a term of 21 years.

For further particulars, apply to the Auctioneers: to Messrs. CHESSE and DAY, Solicitors, Southmolton; or to Messrs. CHANTER, FINCH, and CHANTER, solicitors, Barnstaple.

NORTH DUNRAVEN COLLIERY, GLAMORGANSHIRE, With the FARM LANDS, FIXED PLANT, MACHINERY, TRAMWAYS, &c., now at work. With possession.

Messrs. FULLER, HORSEY, SONS, AND CO. are instructed to SELL, BY AUCTION, at the Mart, Tokenhouse-yard, London, on Thursday, April 24th, 1879, at Two o'clock precisely, in One Lot,

THE NORTH DUNRAVEN COLLIERY.

Comprising the MINES and MINERALS under the Blaen Rhonda Farm, of 853 acres, held from Lord Dunraven, for fifty-three years, on favourable terms. The property is situated near Treherbert, a station on the Rhondda branch of the Taft Vale Railway, a branch line from Treherbert running on to the colliery with sidings to the screens, affording communication with the shipping ports of Cardiff and Newport or Swansea. The minerals comprise the well-known seams of coal underlying the Rhondda Valley, the four principal seams being known as the Two Feet Nine Inch, the Four Feet, the Six Feet, and the Nine Feet. The two upper seams are now being worked, and the downcast pit has been sunk 400 yards to the Nine Feet seam, while the upcast shaft has been sunk 350 yards to the Six Feet seam. The mine is perfectly ventilated. The downcast shaft is oval-form, 18 ft. by 11 ft. 6 in.; the upcast shaft is circular, 12 ft. diameter.

There are three lines of tramways from the pit's mouth to the screens, passing under cover over the weighing machine to the screens, which are on the railway siding. The downcast shaft is worked by a very fine pair of horizontal steam-engines, 30 inch cylinder, 5 feet stroke, with drum 12 ft. 10 in. diameter, capable of raising 1000 to 1200 tons of coal per day; the upcast shaft by a single engine 25 in. cylinder, five large steam boilers, pumping apparatus, with a quick plunger pump; fire-brick works, with two pairs of crushing rolls, two mills, and three kilns; very complete underground workings, with ventilating shaft and furnace. The buildings are most substantially erected, of stone principally, with slated roofs, and comprise offices, two winding engine-houses, boiler-house, smithy, carpenter's shops and stores, and granary over. Good farm house, with outbuildings, and 47 wooden cottages.

The coals are economically worked and raised, and the actual cost of working and raising the coal, including royalties and all charges, is ascertained by a system so accurate and so strictly carried out, that the result may be relied on with certainty.

The works may be inspected by application to S. W. KELLY, Esq., Cardiff, of whom particulars may be had.

Particulars may also be had at the Royal Hotel, Cardiff; at the West Gate Hotel, Newport; of Messrs. FLUX and Co., Solicitors, 3, East India Avenue, Leadenhall-street, London, E.C.; at the Auction Mart; and of Messrs. FULLER, HORSEY, SONS, and Co., 11, Billiter square, London, E.C.

BOWERS' ALLERTON COLLIERIES (LIMITED).

We have shortly to be in a position to FIX THE DATE for the SALE of the above VALUABLE LEASEHOLD COLLIERIES, and announce the ISSUE of the PARTICULARS and CONDITIONS of SALE.

H. PEPER and SONS, Auctioneers, Leeds.

PRELIMINARY ANNOUNCEMENT.

IN THE MONTH OF MAY NEXT WILL BE OFFERED FOR SALE, BY AUCTION, in One Lot, as a going concern, the ESTATE and INTEREST of the

STAND LANE COLLIERY COMPANY (LIMITED).

In the MINES of COAL, SHAFTS, and UNDERGROUND WORKINGS, held by the company of the Earl of Derby, in the township of Pilkington, in the county of Lancashire, together with the

STEAM ENGINES, STEAM BOILERS, TUBS, RAILS, RAILWAY WAGONS, HORSES, CARTS,

And all other the property and effects of the company, incidental to the working of their colliery.

In the meantime all necessary information may be had on application to ADAM MURRAY, Esq., the Liquidator acting in the voluntary winding-up of the company; or to Messrs. T. A. and J. GRUNDY and Co., Solicitors, both of No. 104, King-street, Manchester.

FOR SALE, or terms will be made for the working, the celebrated

SABA SULPHUR PROPERTY.

SABA ISLAND, DUTCH WEST INDIES.

IN ALL ABOUT NINE HUNDRED ACRES,

FIVE HUNDRED ACRES FREEHOLD.

FOUR HUNDRED ACRES LEASEHOLD.

The beds of ore are opened on the freehold, known as the Great Hole Estate, in the district of Hell's Gate. The adjoining leaseholds are secured as the beds extend under them, and to prevent competition. The bed opened on is within 600 ft. of the shipping place; it is from 15 to 20 ft. in thickness, and of high quality—viz., from 30 to 70 per cent.—perfectly free from deleterious matter, as arsenic, &c. A face of 200 ft. in length has been exposed, all equally rich, and the ore can be seen cropping out for fully half a mile in length. Nine cargoes shipped to America, as quarried from the cliff, gave results as follows:—

Name of vessel	—Adair F. Bonny	Analysis	44.00
"	—Indiana	"	44.00
"	—Carrie Nelson	"	57.00
"	—John Rose	"	52.00
"	—Sarah L. Hall	"	52.25
"	—Astrid	"	44.00
"	—Wylie Smith	"	42.50
"	—Annie Gardner	"	50.00
"	—Sarah L. Hall (second cargo)	"	50.00

The average quality of the ore raised in the richest Sicilian Mines is under 20 per cent.

The Saba property having been in litigation for four years, has prevented its being worked; but the freehold and leasehold rights have been declared by the last Appeal Court at Ourepoua to be the property of—

HENWOOD, MAC NISH, AND CO.,

Who invite full inspection and investigation. Further particulars can be obtained by application to—

T. MAC NISH, St. Kitts, W. I.

Saba, West Indies, March 26, 1879.

FORGE CRAGG LEAD AND BARYTES MINE AND WORKS,

FOR SALE.

Situate at BRAITHWAITE, KESWICK, CUMBERLAND.

TO BE SOLD (as a going concern) BY PRIVATE TREATY, the above VALUABLE MINING WORKS. The site is a very large one, and contains veins of COBALT, MANGANESE, LEAD ORE, and BARYTES. A tramway runs through the site, and there are two mills driven by water power (one recently erected and fitted up with powerful machinery), for grinding barytes; plant for bleaching barytes; set of stamps and water-wheel for crushing lead ore. The royalty is very low, and the dead rent, only £25 yearly, merging into royalty.

T. RICHARDS, Esq., F.G.S., Bond-street, Redruth, inspected the property on Oct. 4th, 1878, and his report, with any further information required, can be had by applying to J. STANLEY, Main-street, Cookermouth, Cumberland.

CONTRACT FOR PAVING SETS.

THE DUBLIN PORT AND DOCK BOARD is prepared to RECEIVE TENDERS for the SUPPLY and DELIVERY of about EIGHT HUNDRED AND FIFTY TONS of WELSH PAVING SETS, 7 inches deep, 4 inches wide, and from 7 to 10 inches long. No greater deviation can be allowed in the width of each set than one quarter of an inch on each side, so that any six sets, chosen at will of the Engineer, and set side by side so as to touch each other, shall in no case measure less than 21 inches or more than 27 inches across.

The sets to be delivered on the Dublin Quay, where directed (probably on Great Britain Quay), within three months of date of acceptance of tender.

Tenders, accompanied by a set, intended as an average (not picked) sample of the sets to which the tender refers, shall state the cost per ton, including all charges whatsoever for materials, labour, carriage, and delivery.

The sets shall be of the best quality, squared carefully, and in every respect subject to the approval of the Engineer of the Board, B. B. Stoney, Esq., Port and Docks Office, North Wall, Dublin, from whom further information (if required) may be obtained.

Payments (first deducting 10 per cent.) will be made in about a fortnight or three weeks after each cargo has been delivered, provided the measurements, materials, and work are to the satisfaction of the Engineer of the Board, and the 10 per cent. retained will be paid along with the payment for the last cargo.

Tenders, incorporating the terms of this advertisement, must be sent through the post, sealed, prepaid, and marked on the outside of the envelope, "Tender for Paving Sets," and addressed to the Secretary, Port and Docks Office, Westmoreland-street, Dublin, on or before Wednesday, the 30th April, 1879.

The Board does not bind itself to accept the lowest or any tender.

By order, N. PROUD, Secretary.

Port and Docks Office, Dublin, April 10th, 1879.

NEW ZEALAND—STEEL RAILS.

TENDERS INVITED.

TO IRONMASTERS.—WANTED 100,000 TONS OF STEEL RAILS, To be manufactured in New Zealand.

PUBLIC WORKS OFFICE, WELLINGTON, NEW ZEALAND, 6th November, 1878.

WRITTEN TENDERS will be received at Wellington by the

Hon. the Minister for Public Works up to 30th September, 1879, for the SUPPLY of the WHOLE or any portion of

ONE HUNDRED THOUSAND TONS OF STEEL RAILS,

To be manufactured within the Colony from New Zealand ore. Payment will be made in cash on delivery at the works—the Government of New Zealand agreeing to pay, in addition, one-half of the cost of the conveyance to the Colony, by sea, of the workmen to be engaged in the manufacture.

Information as to the mineral resources of New Zealand, and maps indicating the various localities in which mineral deposits are situated in relation to means of transport, may be had on application to the Agent-General of New Zealand, 7, Westminster Chambers, Victoria-street, London, or to Walter W. Evans, Esq., 68½, Pine-street, New York.

As it is unlikely that intending contractors will enter into an engagement of the above nature without first satisfying themselves by personal inspection as to the position and extent of the raw material in New Zealand, required for the manufacture of iron, every facility and information on this subject will be afforded on application to Dr. Hector, C.M.G., F.R.S., Director of the Geological Department, Wellington.

For the information of parties desiring to tender, it may be stated that the official returns show that there were imported into New Zealand within the last eight years 15,500 tons of cast-iron and 93,000 tons of wrought-iron, exclusive of iron for Government and other railways, during which period 1068 miles have been constructed and opened for traffic.

New Zealand colonists who may have friends and correspondents connected with the iron manufacture are requested to be good enough to draw attention to the highly advantageous and profitable field for enterprise which this colony presents to those who can bring the necessary capital and practical experience to bear upon such manufacture.

JOHN KNOWLES, Under Secretary for Public Works.

HORIZONTAL ENGINE, 15-horse power, strong, and well-

finished, with fly-wheel, wrought crank shaft 5 in. diameter, and massive box bed; suitable for winding or general purposes; quite new. Price £70.

HORIZONTAL ENGINE, 8 in. cylinder, beautiful and most improved design, new and complete, with pump and governor. £38.

ALEXANDER SMITH, ENGINEER, DUDLEY, WORCESTERSHIRE.

MACHINERY, &c., FOR SALE BY THE MINING COMPANY

OF IRELAND, AT THEIR KNOCKMAHON MINES, COUNTY WATERFORD, VIZ.:—

ONE 112-horse power PUMPING ENGINE, with BOILER.

THREE CONDENSING ENGINES, of 19, 22, and 25 horse power respectively, with BOILERS.

ONE HIGH-PRESSURE ENGINE, 8-horse power, with BOILER.

SIX WASHING WATER-WHEELS, of 3, 5, 15, 24, 30, and 32 ft. diameter, respectively; also, the AXLE, &c., of a 40 ft. WHEEL.

ONE CRUSHER, complete, with rolls, 30 in. diameter.

ONE CORNISH BOILER, 14 ft., by 6 ft. ditto.

ONE ditto, 14½ ft., by 5 ft. ditto.

ONE ditto, 24 ft., by 5½ ft. ditto.

ONE ditto, 20 ft., by 5½ ft. ditto.

One crusher; steam hammer; drilling machine; screwing machine; lathe; weighbridge; shears, of various sizes; 220 cast-iron pumps, 6 to 12 in. bore; flat rods, of various dimensions; wagon and spur wheels; iron shafting; plunger poles, &c.

Particulars, and any other information required, can be had by applying to Mr. JAMES HORE, Knockmahon Mines, County Waterford; or to the Secretary, Mr. WILLIAM HAROLD, at the company's office, 30, Lower Ormond Quay, Dublin.

FOR SALE, a NEW 70 inch cylinder CORNISH BEAM

PUMPING ENGINE, 10 ft. stroke in cylinder and 9 ft. in the shaft, with steam case, metallic piston, and wrought gudgeon. The false cover, perpendicular pipes, weigh posts, working and nozzle gear all fitted bright. A strong substantial well made engine, complete, including cast-iron casings for top and bottom nozzles with bright covers, holding down bolts and wrought-iron caps and bolts for connection to main rod.

Apply to WILLIAM'S FERRAS FOUNDRY COMPANY, Perranarworthal, Cornwall.

Dated Jan. 29, 1879.

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reversing gear, ready for delivery; also gear to wind and pump.

A 9-h.p. VERTICAL STEAM ENGINE, with link motion, reversing gear (winding drum if required).

A 6-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER, with carriage and travelling wheels.

Apply to—

BARROWS AND STEWART, ENGINEERS, BANBURY.

22 IN. AIR COMPRESSOR, on massive bed-plate, with slide

bars, connecting rods and crank. FOR SALE (CHEAP).

Improved AIR COMPRESSING ENGINES, with 12 and 9 in. cylinders.

Also PAIR of 9 inch WINDING ENGINES complete, with 4 feet drum, geared 3 to 1.

Apply to—

WARSON AND HILL, ENGINEERS, NOTTINGHAM.

THE NEW PATENT

WATCHMAN'S DETECTOR CLOCK.

THIS IS BY FAR THE SIMPLEST AND BEST (and especially

the strongest) DETECTOR EVER INVENTED. It can be used at once

by the stupidest workman, and cannot be tampered with by the most ingenious.

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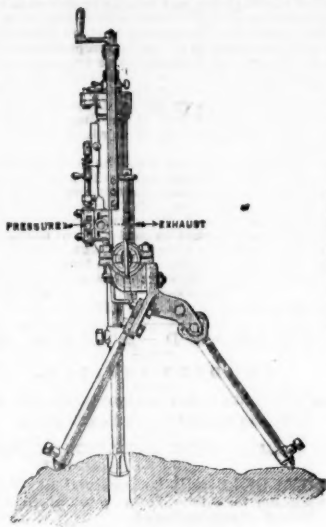
London Office, —H. J. CHAWNER, Manager, 53, Great Tower-street, E.C.

THE HISPANO-ANGLO-BELGE METALLURGICAL SOCIETY,

CALLER MONTERA 32, MADRID.

"Cranston" Rock Drill

IS DRIVING LEVELS 200 LINEAR FEET PER MONTH IN HARD QUARTZ ROCK. "EBERHARDT" TUNNEL NOW DRIVEN IN OVER 3842 LINEAR FEET WITH THESE DRILLS AND COMPRESSORS.



CAN BE SEEN IN DAILY PRACTICAL OPERATION DRILLING 80 FEET OF BLAST HOLES PER DAY IN LIMESTONE ROCK AT ONE-FIFTH THE COST OF HAND LABOUR.

For other particulars and prices, apply to—

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22, Grey-street, Newcastle-on-Tyne.

NOBEL'S EXPLOSIVES COMPANY
(LIMITED),
149, WEST GEORGE STREET, GLASGOW,
FORMERLY
THE BRITISH DYNAMITE COMPANY
(LIMITED).

NOTICE IS HEREBY GIVEN, that in the Cause of the BRITISH DYNAMITE COMPANY (LIMITED) and NOBEL'S EXPLOSIVES COMPANY (LIMITED), *versus* FRANCIS KREBS and others, that the Right Honourable the House of Lords have, upon the appeal of the plaintiff companies, reversed the decision of the Court of Appeal below, and upheld the judgment of Mr. Justice FRY, given upon the 15th of June, 1877, whereby he awarded to the plaintiff companies an injunction to restrain the defendant, FRANCIS KREBS and others, during such time as certain Letters Patent of the 7th of May, 1867, should remain in force, from Manufacturing or Selling in this country any Lithofractor or any compound consisting of or containing Nitroglycerine absorbed into any porous unexplosive substance.

Notice is hereby further given, that any person infringing such Patent, or in any way Importing, Purchasing, Selling, Dealing in or Using any Lithofractor or any other compound consisting of or containing Nitroglycerine absorbed into any porous unexplosive substance will, immediately upon such fact coming to the knowledge of the plaintiff companies or their agents, be proceeded against, and such relief sought as the said companies may be advised.

J. AND R. GOLE, 4, Lime-street, London, E.C.,
Solicitors to the above-named companies.

Dated this 8th day of April, 1879.

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JOHN AND EDWIN WRIGHT

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MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED

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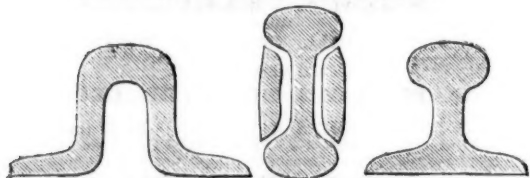
From the very best quality of Charcoal and Patent Steel Wire. Galvanised Wire, Ropes for Ships' Rigging, Galvanised Signal and Fencing Strand, Copper Rope, Lightning Conductors, Colliery Ropes and Steam Plough Ropes made from the best Patent Improved Steel Wire.

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Hemp, Flax, Engine Yarn, Cotton Waste, Tarpauling, Oil Sheets, Brattice Cloth, Wagon Covers, &c., &c.

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STEEL AND IRON WIRE ROPES, LOCOMOTIVE ENGINES, &c., &c.
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STEEL OF ALL KINDS. PIG IRON OF ALL KINDS?
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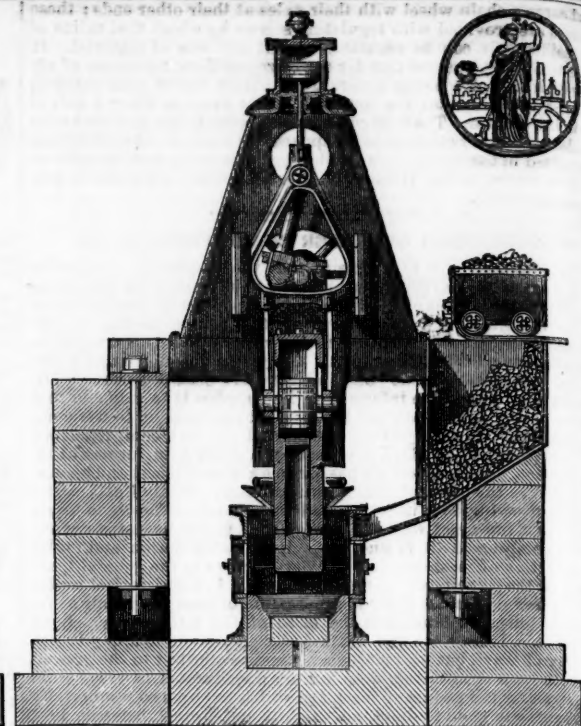
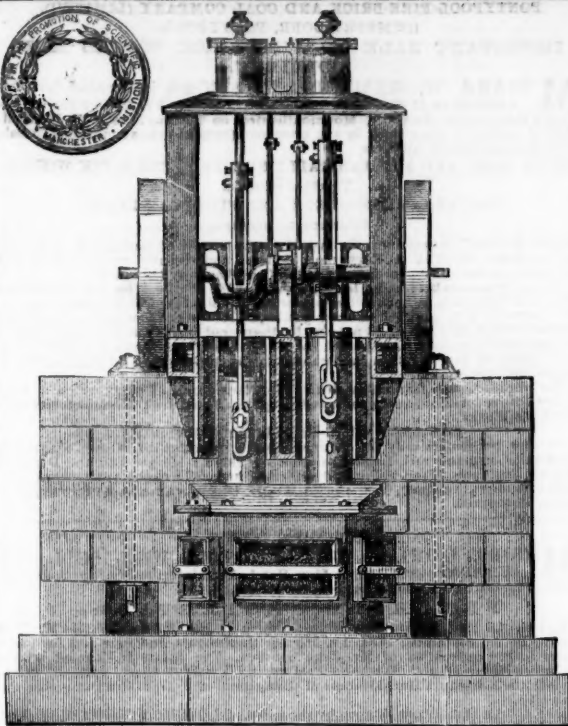
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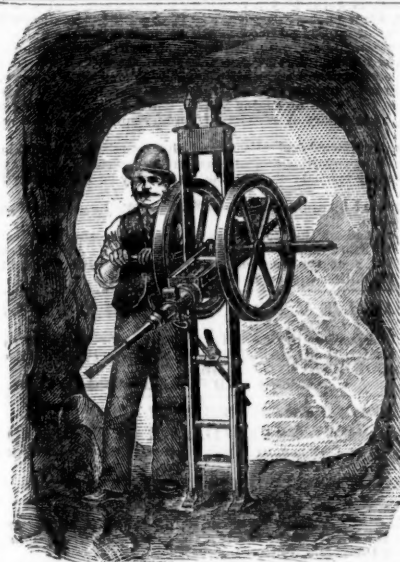
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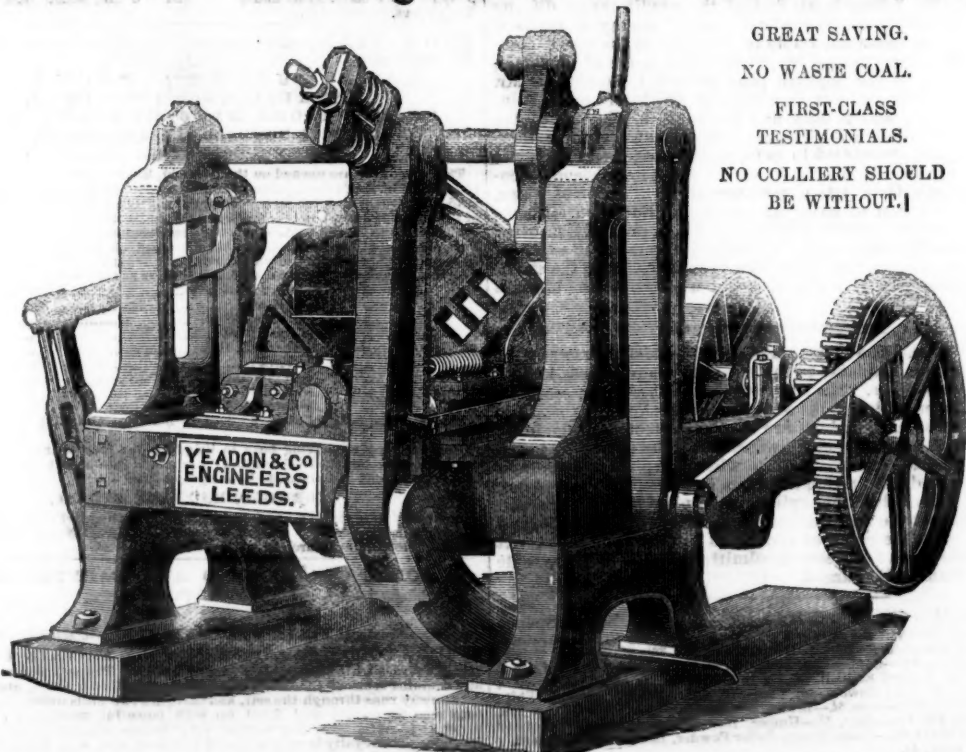
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NO WASTE COAL.

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
3000 Bryn Alyn, s. l., Denbigh.....	10 0 0	—	—	0 7 0	0 7 0	Jan. 1877
10000 Caron, l., Cardigan.....	2 0 0	2 1/2	3 1/2	0 4 0	0 2 0	Oct. 1878
10000 Caro Brea, c. t., Illogan.....	55 7 6	32	30 3/2	308 0 0	1 0 0	Feb. 1874
4000 Cashwell, l., Llanidloes.....	2 10 0	—	—	1 9 0	0 2 0	Aug. 1876
2400 Cook's Kitchen, t., Illogan.....	25 14 9	3	2 1/2	11 17 0	0 7 6	Jan. 1873
240 Devon St. Consols, c. t., Tavistock.....	1 0 0	2 1/2	2 1/2	116 15 0	0 5 0	July 1877
4296 Dolcoath, c. t., Camborne.....	10 14 10	20	28 30	113 1 3	0 5 0	Nov. 1878
5000 East Black Oxley, l., Llanidloes.....	8 0 0	—	—	0 10 0	0 10 0	Feb. 1877
300 East Darron, s. l., Illogan.....	32 0 0	—	—	235 10 0	1 0 0	Aug. 1876
6400 East Pool, t., c., Illogan.....	0 9 9	1 1/2	10 1/2	15 15 0	0 3 0	Jan. 1879
40000 Glasgow Carr., c. t. (30,000 s. l., 10,000 l. p.)	1 0 0	—	—	0 13 0	0 6 0	Aug. 1878
5000 Gorsead & Merlyn Cons., l., Flint.....	2 10 0	2 1/2	2 1/2	0 5 0	0 5 0	Aug. 1877
15000 Great Laxey, l., l. of Man.....	4 0 0	10 1/2	15 1/2	24 15 0	0 5 0	Apr. 1879
618 St. Retalack, l., l. of Man.....	4 18 6	—	—	0 1 6	0 1 6	Mar. 1876
6400 Great North, l., Durham.....	0 0 0	5 1/2	5 1/2	2 2 0	0 3 0	Mar. 1878
20000 Grogwinlon, l., Cardigan.....	2 0 0	3 1/2	3 1/2	0 14 0	0 10 0	Aug. 1878
9850 Gunislake (Clitters), l., c.....	1 5 0	1 1/2	1 1/2	0 13 0	0 1 0	Oct. 1876
60000 Holmbush, a, c. s. l., Callington.....	5 0 0	—	—	0 4 6	0 6 0	Sept. 1876
2800 Isle of Man, l., Isle of Man.....	25 0 0	—	—	82 8 0	0 10 0	Feb. 1878
20000 Leadhills, l., l., Wrexham.....	6 0 0	2 1/2	2 1/2	0 15 0	0 3 0	Mar. 1878
400 Lisburne, l., Cardigan.....	18 18 0	35	30 35	507 10 0	1 0 0	Mar. 1878
9000 Marke Valley, c. t., Linkinhorne.....	5 3 0	3 1/2	3 1/2	7 15 0	0 2 0	Jan. 1876
10000 Mellanear Copper, Hayle.....	2 0 0	3 1/2	3 1/2	0 8 0	0 3 0	Feb. 1879
9000 Minera Mining Co., l., Wrexham.....	5 0 0	11	9 10	67 19 8	0 2 0	Feb. 1879
20000 Mining Co. of Ireland, c. t., l.....	7 0 0	—	—	23 17 6	0 2 0	Jan. 1878
1024 North Busy, c. t., Chacewater.....	1 14 0	—	—	1 0 0	0 5 0	Oct. 1878
1 259 North Hendre, l., Wales.....	2 10 0	6 1/2	6 1/2	2 12 0	0 5 0	Apr. 1879
300000 Panty Mwyn, l., Mold (5784 l. s.)	2 0 0	—	—	0 3 0	0 2 0	Aug. 1877
6000 Pedra-an-dre Cons., l., Redruth.....	0 8 6	—	—	0 9 0	0 9 0	June 1877
6000 Penhalls, t., St. Agnes.....	3 17 6	1 1/2	1 1/2	3 13 6	0 2 0	July 1875
6000 Pennant, l., bar, North Wales.....	5 0 0	4 1/2	4 1/2	0 10 0	0 5 0	Mar. 1878
45793 Penrith, l., c. t., Gwynnapp.....	2 0 0	3 1/2	3 1/2	0 2 8	0 8 0	Nov. 1875
10000 Prince Patrick, s. l., Holywell.....	1 0 0	1	3 1	0 14 0	0 1 0	Jan. 1876
12000 Ditto, pref. (8000 issued).....	0 10 0	—	—	—	—	—
10000 Red Hook, l., Cardigan.....	2 0 0	2 1/2	1 1/2	0 4 0	0 2 0	Jan. 1878
10000 Roman Gravel, l., Salop.....	7 10 0	9	8 1/2	7 15 0	0 5 0	Mar. 1878
512 South Cadour, c. t., St. Cleer.....	1 5 0	55	50 60	744 10 0	1 0 0	Nov. 1878
5128 South Condurrow, t., c., Camborne.....	6 8 6	12	11 1/2	5 7 0	0 10 0	Nov. 1879
12000 St. Harmon, l., l., Montgomery.....	3 0 0	1	1 1/2	0 12 0	0 3 0	July 1878
10000 St. Patrick, s. l. (8000 sh. issued)	1 0 0	—	—	7 7 0	0 1 0	Jan. 1879
4500 South Wh. Frances, l., Illogan.....	7 12 4	10 1/2	10 1/2	37 12 0	0 7 0	Jan. 1879
12000 Tankerville, l., Salop.....	11 0 0	11	10 1/2	50 8 6	0 5 0	May 1877
6000 Tintoft, c. t., Pool, Illogan.....	11 10 0	21	19 1/2	23 10 6	0 5 0	Jan. 1879
15000 Van, l., Llanidloes.....	4 6 0	—	—	55 10 0	0 10 0	Feb. 1878
30000 W. Chiverton, l., Perranabuloe.....	15 15 0	3	3 4	19 0 0	0 10 0	July 1878
1788 West Poldice, St. Day's.....	11 0 0	—	—	30 0 0	0 4 0	July 1878
512 West Tolgas, c. t., Redruth.....	29 1 3	28	27 1/2	3 12 0	0 4 0	Oct. 1877
5128 West Wh. Frances, l., Illogan.....	49 0 0	6 1/2	5 1/2	445 0 0	0 15 0	Apr. 1878
12000 West Wh. Frances, l., Illogan.....	3 0 0	1 1/2	1 1/2	0 12 0	0 3 0	Nov. 1877
1024 Wh. Eliza Consols, t., St. Austell.....	18 0 0	—	—	19 10 0	0 10 0	Aug. 1878
2048 Wh. Eliza, t., Kes.....	5 13 10	3 1/2	3 1/2	8 6 0	0 5 0	July 1878
4298 Wh. Eliza, t., St. Agnes.....	5 4 6	1 1/2	1 1/2	11 19 0	0 2 0	Dec. 1874
25000 Wh. Newton, a, c. s. l., Calstock.....	1 0 0	—	—	0 8 0	0 4 0	Sept. 1877
80 Wh. Newton, t., St. Just.....	173 15 0	—	—	822 10 0	4 0 0	Aug. 1877
3000 Wh. Pevor, t., Redruth.....	7 11 0	9 1/2	9 1/2	1 2 0	0 7 0	Mar. 1879
6 00 Wh. Prussia, t., Redruth.....	0 5 0	—	—	0 4 0	0 1 0	July 1877
10000 Wye Valley, l., Montgomery.....	3 0 0	1 1/2	1 1/2	0 10 0	0 4 0	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, l., Spain.....	2 0 0	1 1/2	1 1/2	1 19 0	0 6 0	Oct. 1878
80000 Almada and Tinto Consols, s. l.....	1 0 0	3 1/2	3 1/2	0 6 0	0 1 0	May 1876
80000 Australian, c. t., South Australia.....	7 7 6	1 1/2	1 1/2	1 1 0	0 1 0	July 1878
10000 Battle Mountain, c. t. (2400 part pd.)	5 0 0	—	—	0 10 0	0 10 0	Nov. 1872
18000 Bideyore Creek, g. t., California.....	4 0 0	3 1/2	3 1/2	0 14 0	0 3 0	June 1874
90000 Cape Copper Mining, s. l., So. Africa.....	7 0 0	28	27 1/2	33 2 6	0 17 6	Dec. 1873
34438 Cedar Creek, g. t., California.....	8 0 0	3 1/2	3 1/2	0 5 0	0 2 0	June 1873
85000 Cesena Sul. Co., Romagna, Italy.....	10 0 0	—	—	0 18 0	0 2 0	Aug. 1878
15000 Chicago, s. l., Utah.....	10 0 0	3 1/2	3 1/2	2 8 0	0 4 0	Nov. 1876
85000 Colorado United, s. l., Colorado.....	5 0 0	2 1/2	1 1/2	0 13 6	0 4 0	Jan. 1875
10000 Copiapo, c. t., Chile (250 shares).....	18 16 0	—	—	7 11 6	0 3 0	May 1877
100000 Don Pedro North del Rey.....	0 18 0	3 1/2	3 1/2	2 8 0	0 2 0	Mar. 1877
28500 Eberhardt & Aurora, s. l., Nevada.....	10 0 0	5	4 1/2	1 8 0	0 3 0	Dec. 1872
70000 English & Australian, c. t., S. Aust.....	3 10 0	1 1/2	1 1/2	2 16 9	0 1 0	Mar. 1878
80000 Flagstaff, s. l., Utah.....	10 0 0	3 1/2	3 1/2	4 2 0	0 4 0	July 1873
25000 Fortuna, l., Spain.....	3 0 0	4 1/2	3 1/2	4 11 0	0 1 0	Apr. 1879
25000 Frontino & Bolivia, g. t., New Gran.....	2 0 0	2 1/2	2 1/2	0 2 6	0 1 0	Sept. 1878
80000 Gold Run, g. t., California.....	1 0 0	—	—	0 2 0	0 2 0	Oct. 1872
100000 Hercules and Roe, c. t., Colo. Ry. Bd.....	2 0 0	—	—	2 8 0	0 2 0	Jan. 1876
58000 Kapunda Mining Co., Australia.....	1 3 0	—	—	0 2 4	0 0 0	June 1878
20000 Last Chance, s. l., Utah.....	5 0 0	3 1/2	3 1/2	0 14 0	0 2 0	July 1872
15000 Linares, l., Spain.....	3 0 0	4 1/2	3 1/2	17 12 10	0 2 0	Apr. 1879
95000 London and California.....	3 0 0	—	—	0 1 0	0 1 0	July 1876
7837 Lusitania, Portugal (25 sh.).....	3 10 0	—	—	1 11 6	0 1 0	Mar. 1872
5000 Mamm Copperopolis of Utah, c. t.....	10 0 0	—	—	0 8 0	0 5 0	Dec. 1872
5000 Mountain Chief, c. t., Utah.....	10 0 0	—	—	0 4 0	0 4 0	Jan. 1873
10000 Pontigbau, s. l., France.....	30 0 0	22	19 21	28 19 0	0 19 0	Dec. 1878
10000 Port Phillip, g. t., Clunes (25 sh.).....	1 0 0	3 1/2	3 1/2	1 12 0	0 1 0	Mar. 1879
54000 Richmond Consols, s. l., Nevada.....	5 0 0	8 1/2	8 1/2	7 1 6	0 10 0	Feb. 1879
40000 Santa Barbara, g. t., California.....	0 10 0	2 1/2	2 1/2	0 5 0	0 1 0	Nov. 1878
100000 Scottish Australian Mining Co., s. l.....	1 0 0	1 1/2	1 1/2	15 per cent.	—	Nov. 1878
125000 Sierra Buttes, g. t., California.....	2 0 0	3 1/2	3 1/2	15 per cent.	—	Nov. 1878
140258 S. B. Plumas Eureka.....	2 0 0	3 1/2	2 1/2	0 6 0	0 1 0	Jan. 1879
4203000 St. John del Rey (25 stock & multiple dealt in).....	255 275	—	—	3 1 0	0 3 0	Oct. 1878
90000 Tolima, g. t., So. America.....	5 0 0	—	—	3 1 0	0 6 0	May 1874
25000 Victoria (London), g. t., Australia.....	1 0 0	3 1/2	3 1/2	0 12 6	0 0 0	7 1/2 Jan. 1878
15000 Western Andes, s. l., New Granada.....	5 0 0	—	—	0 12 0	0 12 0	July 1876
21000 W. Prussian (5500 pref. sh. 10 l. pd.)	10 0 0	10 1/2	10 1/2	1 10 0	0 4 0	Jan. 1879

NON-DIVIDEND FOREIGN MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
12000 Argentine, g. t., Argentine Republic.....	5 0 0	—	—	—	—	—
80000 Blue Tent, s. l., California.....	5 0 0	—	—	—	—	—
10000 Buena Ventura, s. l., Llanos de las Infantas, Spain (25 sh.)	0 10 0	—	—	—	—	—
14000 Canada, g. t., Canada.....	1 0 0	—	—	—	—	—
49325 Onitaca, g. t., Nicaragua.....	2 0 0	—	—	—	—	—
15000 Colombian Hydraulic, g. t., Colombia.....	1 0 0	—	—	—	—	—
18000 Condes of Chila, s. l., Chile.....	1 0 0	—	—	—	—	—
20000 English Australian, s. l., Australia.....	5 0 0	—	—	—	—	—
35300 Exhonor Hydrolic Gold Washing Co., California.....	1 0 0	—	—	—	—	—
100000 Exhonor, g. t., California.....	1 0 0	—	—	—	—	—
100000 Frontenac, l., Ontario Canada.....	1 0 0	—	—	—	—	—
40000 Holcombe Valley, g. t., California.....	1 0 0	—	—	—	—	—
8000 Horachos, s. l., Spain.....	10 0 0	—	—	—	—	—
12000 Hultafall, l., l., Orebro, Sweden.....	10 0 0	—	—	—	—	—
12000 Hunter Consolidated, s. l., Utah.....	10 0 0	—	—	—	—	—
20000 Imperial Brazilian Collieries, Brazil.....	5 0 0	—	—	—	—	—
7800 Isabella, g. t., California (250 shares).....	5 0 0	—	—	—	—	—
100000 I. K. L., g. t., California.....	1 0 0	—	—	—	—	—
50000 Javali, g. t., Nicaragua.....	2 0 0	—	—	—	—	—
35000 La Mancha, l., Newfoundland.....	10 0 0	—	—	—	—	—
12000 Lanestosa, s. l., Viscaya, Spain (25 shares).....	1 15 0	—	—	—	—	—
12000 Menzberg, c. t., Honnet, Germany.....	5 0 0	—	—	—	—	—
4588 New Bensenberg, l., l., Germany.....	5 0 0	—	—	—	—	—
80000 New Quebrada, c. t., Venezuela.....	5 0 0	—	—	—	—	—
20000 New Zealand Kapanga, g. t., Coromandel.....	5 0 0	—	—	—	—	—
30000 Oregon, g. t., Oregon, U.S. (preference shares).....	5 0 0	—	—	—	—	—
50000 Panulillo, c. t., Chile (25000 debentures).....	4 0 0	—	—	—	—	—
20000 Pestana United, g. t., Italy.....	4 0 0	—	—	—	—	—
25000 Pitanguy, g. t., Brazil (incl. 6000 sh. £1 fully paid).....	3 0 0	—	—	—	—	—
25000 Placerville, g. t., California.....	0 5 0	—	—	—	—	—
50000 Providencia and New Rosario, s. l., Mexico.....	2 0 0	—	—	—	—	—
40000 Ravenscliff, g. t., New Zealand; c. t., South Australia.....	1 0 0	—	—	—	—	—
22,151,000 Rio Tinto, c. t., Huévea, Spain.....	0 5 0	—	—	—	—	—
100000 Rosca Grande, c. t., Brazil (25 shares).....	Stock	—	—	—	—	—
30040 Russia Copper, Orenburg and Ufa.....	1 0 0	—	—	—	—	—
32000 Sautin, l., Arle, France.....	10 0 0	—	—	—	—	—
10000 Silver Plume, s. l., Colorado.....	1 0 0	—	—	—	—	—
30000 Tecoma, s. l., Utah.....	10 0 0	—	—	—	—	—
43174 United Mexican, s. l., Mexico.....	29 0 3	—	—	—	—	—
14000 Utah, g. t., Utah.....	—	—	—	—	—	—
50000 Vorneberg, c. t., Rheinbreitbach, Germany.....	2 0 0	—	—	—	—	—
15000 Yorke Peninsula, c. t., South Australia.....	1 0 0	—	—	—	—	—
54500 Yorke Peninsula, c. t., South Australia Preference.....	1 0 0	—	—	—	—	—

* Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

CLOSING PRICES.				CLOSING PRICES.			
Argentina, 1868 6 percent.....	70 1/2	71 1/2		Foreign and Col. Gov. Trust, 6 p. et al.	64	69	
Bolivia, 6 per cent.....	27 1/2	28 1/2		Do., 5 per cent., 3d issue.....	48	53	
Brazilian, 1865, 6 per cent.....	89	91		Do., 6 per cent., 3d issue.....	64	69	
Chilian, 1866, 7 per cent.....	74	78		Do., 1872, 4th issue.....	59	63	
City of Providence, s. p. coupon bonds	100	102		Do., 1873, 5th issue.....	59	63	
Egyptian, Gov. preference.....	63	63 1/2		Peruvian, 1870, 6 per cent.....	13	13 1/2	
Do., unified debt, scrip.....	44 1/2	45 1/2		Do., 1872, 6 per cent.....	10 1/2	11 1/2	
Do., 7 per cent., V.M.L.....	70	75		Railroad, 5 1/2 per cent. L. Mort.....			
Do., 9 per cent., guar.....	74	78		Spanish, Quilichao, 5.....	100	101	
Do., K. Daira Saaleh.....	48 1/2	49 1/2		United States Mort., 1. Rev.....	100	105	